

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

WASHINGTON, O.C. 20551

May 13, 1975

CONFIDENTIAL (FR) CLASS II FOMC

TO: Federal Open Market Committee

FROM: Arthur L. Broida

Attached for your information is a memorandum from the staff, dated May 7, 1975, entitled "Expanded Desk Buying of Coupon Issues."

This memorandum was prepared in response to a request at the meeting of the Committee held on March 18, 1975.

Attachment

CONFIDENTIAL (FR)
CLASS II FOMC

May 7, 1975

TO: Federal Open Market Committee SUBJECT:

UBJECT: Expanded Desk Buying of

FROM: The Staff 1/ Coupon Issues.

This memorandum responds to the request of the Open Market Committee for staff evaluation of a proposal for expanded Desk buying of coupon issues. The objective of such a program would be to moderate upward pressure on long-term interest rates, at a time when the Treasury is involved in heavy deficit financing and corporations are borrowing heavily in bond markets.

The degree to which Desk purchases of coupon issues can have a sustained downward impact on longer-term interest rates is open to question. Both the "expectations" theory now generally accepted as the best explanation of the term structure of interest rates and empirical tests of changes in the maturity distribution of securities held by the public suggest that even very large Desk purchases of Treasury coupon issues exert only limited, short-lived effects on levels of long-term rates and their relation to short-term rates. A case can be made, however, that during periods of heavy, concentrated demands on longer-term credit markets like the one now underway, even the relatively limited short-term effects of System purchases of coupon issues may be of some value.

At a minimum, System buying of longer-maturity issues can help to relieve periods of market unsettlement resulting from an overhang of dealer inventories of Treasury securities. This may help to facilitate

Prepared by Messrs. Axilrod and Keir. The memorandum has also been reviewed by Messrs. Holmes, Sternlight, and Partee, who generally concur with the analysis.

a smoother market adjustment to succeeding Treasury financings and a more ready absorption of the incoming supply of new corporate bonds. In addition, a fairly persistent, evident, program of purchasing coupon issues by the System may exert some influence on the process through which market expectations about future rates evolve, leading to a somewhat more extended lessening of pressures on longer-term interest rates.

Past experience suggests that market participants weight very recent developments heavily in judging interest rate prospects and see future developments only dimly when looking much beyond 6-9 months. For this reason, official actions that succeed in some short-run smoothing in the market absorption of heavy new debt offerings may have some influence on the dynamics of market judgments about future rates, and in that way help to dampen increases in longer-term rates over periods of possibly a quarter or more.

Even if the total impact of Desk buying turned out to be quite small in the end, little would seem to be lost in such operations--so long as their volume does not make Desk buying the dominant market force, dry up private investment interest in longer-term Government debt, or lead to excessive expansion of bank reserves. From a liquidity standpoint, the System's security portfolio could stand considerable restructuring toward longer maturities. For example, all of the roughly \$7 billion of expansion likely to be needed to provide for bank reserve growth this year could be channeled into coupon issues and still leave an ample portfolio of bills available for needed Desk selling to absorb reserves.

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It is difficult to judge in advance how much of this leeway for potential lengthening of the System portfolio should actually be used. Among other things, the answer will depend on how the Treasury elects to finance its huge cash deficit. Experience to date suggests that the Treasury will probably utilize all sectors of the market. If this policy continues, new offerings of longer-term issues will naturally be substantially greater than usual, leading to enlarged opportunities for System purchases of coupon issues.

The staff believes that in the current economic environment the objectives of monetary policy would be facilitated if the Desk were to take advantage of such opportunities. Any ensuing moderation of pressures on longer-term credit markets would aid in the recovery of the home-building industry and would enable corporations more readily to restructure balance sheets. This would improve corporate liquidity and, at the margin, increase the likelihood of greater business spending.

System entry into the market to purchase coupon issues, however, probably ought to be confined to periods when there is a need to supply reserves. Purchases at other times would require offsetting sales of bills (or enlarged matched sale-purchase transactions) to prevent undesired expansion in the bank reserve base. Such "swap" operations should probably be undertaken only under exceptional circumstances—for example, when long-term markets were highly congested and the security distribution mechanism was coming to a halt.

More generally, purchases of coupon issues at times when reserve additions were not needed could easily lead the market to believe that the long-term interest rate level was being manipulated. This could be

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counter-productive to the extent that investors backed away from purchasing Treasury and corporate bonds, on the grounds that their yields were artifically low. Moreover, sizeable bill sales in connection with coupon purchases would exert further upward pressure on bill rates. The Treasury will in any event have to continue raising record amounts of new money through sales of bills--given the size of the deficit. With bill rates still being watched by market participants as a sensitive belwether of changing market conditions, System actions that added to upward pressures on these rates--and, through market arbitrage,/ other short-term rates--could lead to tighter over-all credit market conditions than desired. Higher short-term rates would tend to reduce savings inflows to banks and other thrift institutions and augment pressures on the mortgage market.

A program that emphasizes purchases of coupon issues at times of reserve need would lead over time to an increased share of longer-term securities in the System's portfolio, especially since bill sales or redemptions are likely to be utilized during periods of reserve absorption. While there is room at present to increase the share of long-term holdings in the System portfolio, the staff believes in principle that sales of longer-term securities should also be contemplated from time to time. Of course, there are important, practical constraints on sales of coupon issues. The main problem is that the market for Treasury notes and bonds is considerably thinner than that for short-term securities. As a result, regular System sales of coupon issues could run the risk of unduly depressing prices unless accomplished during periods of strong investor demand for such securities. Since investor demand for longer-maturing issues is not likely to be strong relative to supply over the balance of the year,

the staff does not believe sales of coupon issues will prove practicable (apart possibly from some sales of coupon issues maturing in less than a year). Should a clear opportunity for selling Treasury coupon issues maturing in more than a year develop as time goes on, however, the staff believes that the Trading Desk should take advantage of such an opportunity to begin development of a two-way trading relationship between the System and the market in such securities.

To provide additional background for consideration of these summary conclusions, succeeding sections of the memo review: (1) the procedures and record of Desk operations in coupon issues since the abandonment of the "bills-only" policy in late 1960; (2) the major findings of academic research regarding the likely effects of Desk coupon operations on rate structure; and (3) the range of possibilities for expanded Desk buying of coupon issues over the rest of 1975.

Record of Desk Operations in Coupon Issues

Over the years since the abandonment of the "bills-only" policy, the Desk has modified its technical approach to coupon security operations from time to time, including the extension of outright operations to Federal agency securities in 1971. In two major respects, however, operations in coupon issues have remained unchanged from the beginning. First, transactions have occurred primarily on the buy side of the market--sales have been restricted exclusively to issues with less than a year remaining to maturity. Second, the Desk has adhered from the beginning to the overriding principle that its transactions should not be allowed to become the dominant share of total market activity in the issues involved.

Thus, purchases have generally been made at a time of enlarged market availability.

Fulfillment of this second principle means limiting Desk operations in any given issue to a fraction of total dealer offerings and a rejection of tenders that depart significantly from prevailing market prices. As one would expect, this constraint tends to limit Desk operations in coupon issues at times when supplies available from dealers are thin and additional offerings can be elicited from ultimate investors only by forcing a significant change in prevailing prices. The purpose of the constraint is to avoid Desk actions that will merely augment the short-run volatility of bond prices--due to scarcities in the immediate market supply of given issues--and in this way create temporary market dislocations that add to confusion about basic rate tendencies, without really influencing these tendencies in any lasting way. Most recently, of course, Treasury coupon issues have been in ample supply.

The record of Desk operations in coupon issues is summarized in Tables 1 and 2. Table 1 shows annual dollar increases in the System Open Market portfolio for key years in the period since 1960, with a breakdown by maturity and type of issue. Table 2 compares these same figures in relative terms--showing the shares of annual growth attributable to key sectors of the System portfolio during selected time periods. The time periods chosen are 1961-63--which encompasses the period in which Desk efforts were generally characterized by outsiders as "operation twist"; 1964-70--in which Desk acquisitions of coupon securities became much less important; and 1971-75--in which the dollar volume of transactions has increased substantially.

Table 1 Annual Changes in Structure of System Portfolio (In millions of dollars)

Type and Maturity of	i	n Coupo	imum Act	es	Annual average for other					
Issue	1961	1962	1971	1974	intervening years 1/					
Treasury bills ^{2/}	293	- 751	4190	1280	3026					
Treasury coupons Redemptions Under 1-yr. 1-5 yrs. Over 5-yrs.	1445 - 295 - 874 1826 788	2507 683 1461 363	2663 81 1338 1244	1747 320 797 630	1086 - 29 111 567 437					
Federal agencies Redemptions Under 1-yr. 1-5 yrs. Over 5-yrs.	n.a.	n.a.	485 199 187 98	2765 - 317 439 1665 977	n.a. <u>3</u> /					
Total change4/	1733	1760	7362	6303	4257					

Details for individual years represented in average are shown in Appendix.

 $\frac{2}{3}$ Includes net redemptions in bill auction.

Agency operations occurred only in 1972 and 1973; in those years, however, acquisitions of issues with maturities of more than one year averaged \$879 million.

Total changes include small shifts in outright holdings of bankers acceptances not shown separately.

Table 2
Changes in Key Components of System Portfolio
as a Percentage of Annual Growth
(Selected periods from 1961-74)

T Table Mark St											
Type and Maturity of	K.	ey periods		Selected Years							
Issue	1961-63	1964-70	1971-74		1961	1962	1971	1974			
		···					1-1-1				
Treasury bills	<u>19</u>	<u>76</u>	<u>50</u>		<u>17</u>	<u>-43</u>	<u>57</u>	<u>20</u>			
Treasury coupons	<u>81</u> - 5	24	<u>29</u> - 1		<u>83</u> -17	142	<u>36</u>	<u>28</u>			
Redemptions	- 5		- 1		-17						
Under l-yr.	- 3	3	3		-50	39	7	5			
1-5 yrs.	62	12	14		105	83	18	13			
Over 5-yrs.	27	9	13		46	21	17	10			
0 v c 1 3 - y 1 3 .	-7	,	10		.0	_,	• •				
Federal agencies	n.a.	n.a.	$-\frac{19}{3}$		n.a.	n.a.	_7_	<u>44</u> - 5			
Redemptions			- 3					- 5			
Under 1-yr.			3 12				3	7			
1-5 yrs.			12				3	26			
Over 5-yrs.			8				1	16			
ove. 5 315.			J				•				
Bankers acceptances	- <u>-</u>		_2					8			
Total	100	100	100		100	100	100	100			
10001	100	100	100					100			

n.a.--Not applicable.

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Expanded Desk acquisitions in recent years are due in large part to the extension of outright Desk buying to Federal agency securities. In 1974, for example, Desk buying of Federal agency issues alone expanded to nearly \$2.8 billion. This exceeded combined Desk purchases of both Treasury and agency coupon issues in all other years except 1971. The enlarged acquisitions of agency issues during 1974 were, of course, attributable to the sharp increase in overall agency borrowing resulting from the general squeeze on private lenders—particularly in housing. During earlier tight money periods when outstanding agency debt also expanded sharply, the Desk was not authorized to make outright purchases. 1/

The periods of Desk action in coupon securities of most significance to the present inquiry are the 1961-62 years of initial coupon operations, and 1971. In 1971 acquisitions of <u>Treasury</u> coupon issues reached a record total of \$2.7 billion, reflecting the Committee's express desire to exert downward pressure on long-term rates during the 1970-71 recession. In contrast to the current situation, in which market participants generally expect interest rates to rise cyclically, during 1971 the recession was still creating expectations of declining rates. Desk buying of coupon issues at that time was intended to reinforce these expectations and accentuate the rate declines already underway. Acquisitions of Agency debt in 1971 amounted to only about \$500 million--substantially less than in succeeding years--since Desk authority to begin direct acquisitions of such issues was not granted until rather late in the year.

Desk purchases of Treasury and agency coupon issues during the first four months of 1975 aggregated \$3.4 billion, as shown in appendix Table I. This is larger than the aggregate purchases of coupon issues in all 12 months of earlier years, except 1974. In 1974 the twelve-month total was \$4.5 billion.

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In judging the significance of Desk purchases of coupon securities during the 1961-62 period, it should be noted that the \$2.6 billion of longer-term coupon issues bought in 1961 and the \$2.5 billion of total coupon issues acquired in 1962 were exceeded only in 1971 and 1974, after operations had been extended to agency securities. The 1961-62 period bulks even larger in the overall record when these actions are viewed in relative terms--as a share of total yearly growth in the System portfolio. For example, in 1962--when the Desk was a sizable net seller of Treasury bills, acquisitions of coupon issues amounted to 142 per cent of growth in the overall System portfolio. In 1961 the acquisitions of longer maturity coupon issues amounted to 150 per cent of overall portfolio growth. These numbers contrast sharply with 1971 when acquisitions of Treasury and agency coupon issues combined amounted to only 43 per cent of overall portfolio growth. And even in 1974, when Desk purchases of agency issues were so large, acquisitions of all coupon issues accounted for just 72 per cent of portfolio growth.

Analysts outside the Federal Reserve have generally viewed the heavy 1961-62 System buying of longer- maturity coupon issues as part of an "operation twist" designed both to lower long-term rates and minimize downward pressures on short-term rates. Actually, however, the System effort was focussed essentially on short-term rates. To try to limit short-term dollar outflows, Treasury cash borrowing and System open-market operations were coordinated to maintain the yield on 3-month Treasury bills above a given floor.

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This bill rate goal was implemented by concentrating Treasury net cash borrowing in the bill market and restricting System buying of bills. To achieve this goal the System sold bills and short-term coupon issues when absorbing reserves and bought longer maturity coupon issues when providing reserves. Even when no System action to affect reserves was required, the Desk would sometimes sell bills to maintain upward pressures on their yields and then neutralize the reserve effect of these operations with offsetting purchases of longer-maturity coupon issues.

Once market professionals understood that Treasury and System operations were being coordinated to maintain a bill rate floor, they began to sell bills themselves whenever the rate declined toward that limit. When the bill rate moved above the perceived floor, market professionals reversed their posture and became willing buyers again. This combination of Treasury, Federal Reserve, and dealer policing operated to maintain fluctuations of the bill rate within an exceedingly narrow range during most of the 1961-62 period. The success of this bill rate strategy was attributable to the early recognition by market participants that the Treasury and the Federal Reserve—working in tandem—were prepared to expand the market supply of bills as needed to keep the bill rate from dropping through its floor.

Of course, the basic reason this bill rate limit could be effectively maintained was that it was broadly consistent with the overall monetary policy and financial market conditions then prevailing. Short-run changes in the market supply of bills by the Treasury and Federal Reserve

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served mainly to dampen the amplitude of fluctuation in bill rates around their average.

Tests of the Impact of Desk Actions on Rate Structure

Most of the empirical work done on interest rate structure since the early 1960's has tended to confirm the now widely accepted theory that the term structure of rates is determined principally by the prevailing expectations of market participants about future rates. This theory suggests that at times when interest rates are generally expected to come under upward pressure, Federal Reserve efforts to expand supplies of long-term funds and limit advances in long-rates through purchases of Government notes and bonds (without changing the basic stance of monetary policy) are likely to encourage offsetting actions by private market participants that tend to frustrate the official purpose.

Examples of private parties eager to sell longer-term securities in such circumstances come readily in mind: (1) dealers seeking to reduce positions in notes and bonds in order to minimize capital losses from the forecast rate advance; (2) market speculators selling short to profit from expected bond price declines; (3) investors with flexible investment options—such as banks—seeking to shorten average portfolio maturities in the face of rising rates and expected increases in loan demands; and (4) investors with essentially long-term portfolio options seeking to profit from improved yield spreads by selling longer-term Treasury bonds and acquiring corporate notes and bonds.

Responses of the first three types would not channel additional funds to long-term markets. The inter-market switching of group (4)

would shift funds to other markets and thus would tend to exert downward pressures on long rates generally, as desired. However, incentives to make such transfers would not be particularly large unless Treasury bond yields were significantly depressed relative to other long-term rates over a sustained period.

Expectations theorists argue that because the offsetting adjustments of the first three groups would tend to dominate at the outset, very little widening of long rate spreads could be expected. To achieve a widening of spreads sufficient to trigger switching by investors in group (4), System operations would, therefore, have to be sufficiently large, and sustained to more than offset the desired adjustments of all market participants with objectives similar to those of the first three groups. However, even if a massive System effort succeeded in achieving some widening of yield spreads, the theorists conclude that these changes would not be lasting. Once Desk operations ceased, yields would again snap back into a set of relationships consistent with market expectations.

If yields in either the Government or other long-term markets did become lower than generally expected for a time, the Treasury or other long-term borrowers might be encouraged to expand long-term debt offerings and push rates back up. Of course, to the extent such an expanded volume of long-term debt was placed at rates below previously expected levels, the purpose of Desk buying would have been at least partly fulfilled.

Empirical studies. Empirical tests of the term structure of interest rates undertaken since the late 1950's have fairly consistently supported the conclusion of the "expectations" hypotheses that even large changes in the maturity distribution of the marketable Government debt exert relatively small and essentially short-lived effects on the spread

between short and long-term rates. The Modigliani-Sutch study of the term structure of rates (published in the American Economic Review of 1966) is widely viewed as the most complete and careful study of this ouestion. $\frac{1}{2}$ The so-called "Habitat Model" used for their analysis:

> ".... implies that the spread between the long rate and the short rate should depend primarily on the expected change in the long rate. But it suggests that the spread could also be influenced by the supply of long and short-term securities by primary borrowers relative to the corresponding demand of primary lenders, to an extent reflecting prevailing risk aversion, transaction costs, and facilities for effective arbitrage operations."

After exhaustive testing of the early 1960's period with this model, the authors concluded that the System's "operation twist" might possibly have caused a temporary narrowing of the spread between short and long-term Treasury yields, by as much as 12 basis points. But they are not too confident of this result, believing that the observed change of spread may instead have reflected upward pressure on bill rates resulting from the more lasting introduction of large bank CD's and consequent investor substitutions away from bills.

A number of other less rigorous acadamic studies have also concluded that changes in the maturity structure of debt available to the public exert only limited and relatively fleeting effects on spreads between long and short-term rates. One well-publicized, but rather

^{1/} Innovations in Interest Rate Policy presented in the Papers and Proceedings of the American Economic Review for the annual meeting of 1966.

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hastily done, test of this type was the paper prepared by Arthur Okun for the Commission on Money and Credit. $\frac{1}{}$ He regressed variables like the volume of Treasury securities maturing within 5 years, over 5 years, and the average maturity of securities maturing in more than 5 years against the spread between 90-day Treasury bills and long-Treasury bonds. The period tested was, of course, prior to the System's experiment with its so-called "operation twist". Okun concluded that the maturity structure had virtually no effect on rates.

Frank DeLeeuw--in his Brookings model paper--regressed the same rate spread against the change in the percentage of Federal debt available to the public with 1-5 year maturities. His results imply that with our present debt structure, an immediate shift of about \$12 billion would be needed from 1-5 year debt to Treasury bills to narrow the spread between bill rates and bond yields by 25 basis points. And even this effect would dissappear after one quarter.

Robert Scott regressed the spread between the long-Treasury rate and the 3-month bill rate against the average maturity of the marketable Federal debt. $\frac{3}{}$ He found that a decrease (increase) of one month

Monetary Policy, Debt Management, and Interest Rates: A Quantitative Appraisal by Arthur Okun--a study prepared for the Commission on Money and Credit, published in 1963.

^{2/} A Model of Financial Behavior by Frank DeLeeuw prepared for the Brookings Quarterly Econometric Model in 1965.

^{3/} Liquidity and the Term Structure of Interest Rates by Robert Scott in the Quarterly Journal of Economics for February, 1965.

in the average maturity of the debt produced a $3\frac{1}{2}$ basis point narrowing (widening) of the spread. Data were monthly for the 1952-59 period. Given the distribution of marketable Treasury debt recently prevailing, it would take a shift of \$2.5 billion from the 10-year to the 1 year maturity area to change the average maturity of the debt by one-month. $\frac{1}{2}$

It is interesting to compare the conclusion of the Modigliani-Sutch study about "operation twist" with the following evaluation taken from the System Account Manager's own report for 1961.

"The rise in long-term interest rates would probably have been greater if the System and Treasury had not undertaken purchases outside the short-term area during the year. As indicated earlier, the System purchases were undertaken primarily to help maintain the level of short-term rates. However, the System and Treasury buying provided bids for investors desirous of switching from Governments into other sectors of the capital market, and therby facilitated the flow of funds into those areas. As noted above, this was particularly true in the second quarter, when an unusually large volume of new corporate and municipal security offerings was absorbed, partly by investors switching

The preceding references, of course, represent only a sampling of academic studies done on the term structure of rates since the late 1950's. Most of the other studies are less rigorous than those cited, but reach roughly the same conclusion. A study by John Culbertson (entitled The Term Structure of Interest Rates) prepared while he was at the Federal Reserve, and published in the QJE of November, 1957, is a significant exception. It found considerable support for the theory of market segmentation as an alternative explanation of the term structure of rates. However, the more sophisticated econometric studies that have followed give primary support to the "expectations" hypothesis and are generally accepted as a better explanation.

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out of Governments. The flow of funds was further encouraged by the movement of yield spreads in favor of non-Government issues (also an indirect result of the System and Treasury buying). The spread between long-term Treasury issues and Aaa-rated corporate bonds, for example, was about 55 basis points in May, compared with about 45 basis points before the System and Treasury purchases began. Meanwhile, the excess of before tax yields for long-term Treasury bonds over Aaa-rated municipal obligations narrowed from 67 basis points to less than 50 in the same period. These changes in yield spreads not only encouraged switching out of Governments but probably diverted some new investment funds into other sectors of the capital market as well.

The estimates of changed spreads contained in the two studies-in the academic case between short and long-term Treasury rates; and in the System case, within the complex of long-term rates--are in a sense two different ways of looking at induced changes in Treasury bond yields. Neither approach suggests that the impact on Treasury bond yields was very large. The Modigliani-Sutch analysis, however, implies that the Desk operations had very little impact whereas the Desk evaluation suggests that sufficient funds were released to other bond markets by its operations to exert some influence on underwriting of the heavy volume of new corporate issues being brought to market over that period.

While the Account Manager provides no rigorous analysis to support his 1961 conclusion, the academic research on rate structure has likewise suffered from important limitations. For example, it has typically limited its focus exclusively to the Treasury market (where the data are more complete) and simply ignored the question of inter-market

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substitution among long-term securities. $\frac{1}{}$ In addition, the academic studies have generally assumed that supplies of debt issues available in selected maturity areas are independent of the shape of the yield curve, which obviously is not wholly true--particularly in the case of Treasury securities.

Thus, while the general conclusion of academic studies—that even sizable changes in the term structure of debt exert only a relatively small and short—lived impact on the shape of the yield curve—are probably essentially correct, the precise estimates of the size of the impact (in basis points) may not be too reliable, and the effects of these observed changes in spread on fund flows, may be understated. It should be expected, for example, that Treasury bond yields would fail to decline appreciably—despite Desk buying—if even a relatively small widening of the spread with corporate bonds encouraged investors to sell long-Governments to the Desk in order to switch to new corporate offerings. If such switching facilitated the flotation of an increased volume of corporate debt without an appreciable rise in interest costs, the Desk action would clearly have been useful,

In an article published in the June 1971 issue of the Journal of Money, Credit, and Banking, Fair and Malkiel try to explain rate spreads between Treasury and corporate bonds. They conclude that yield differentials between alternative bond instruments of the same maturity are significantly influenced by the stocks of bonds outstanding and by the flow of anticipated new financing over the next six months. Their empirical analysis suggests that a \$1 billion decline in the stock of Government bonds held by the public will permanently widen the spread of corporate issues over Government issues by 3-5 basis points.

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even though the observed change in the shape of the Treasury yield curve was quite small. $\frac{1}{}$

Leeway for Desk Operations in Coupon Issues Over the Rest of 1975

Rough projections of reserve factors and member bank borrowing over the rest of 1975 suggest a need for net growth of perhaps \$7 billion in the System portfolio--assuming no further changes in bank reserve requirements. Since System holdings of U. S. Government and Federal agency securities with maturities of one year or less presently aggregate about \$49 billion--of which nearly \$36 billion are in Treasury bills, as Table 3 shows--there obviously is no need to add to the liquidity of the open-market portfolio. In fact, from a liquidity standpoint--and for the moment ignoring the possibility of adverse market reactions--the Desk has ample leeway not only to channel the full \$7 billion of projected growth in the System portfolio into coupon issues, it could also sell additional billions from its Treasury bill portfolio on swaps into coupon issues--if an ambitious program of this magnitude seemed desirable on other policy grounds.

As noted earlier, Desk acquisitions of longer-maturity coupon issues during both 1961 and 1962 substantially exceeded the net annual

Dusenberry and Bosworth are developing a "flow-of-funds" model explicitly designed to provide better answers to such things as the size of inter-market flows triggered by changing rate spreads. Unfortunately, problems of specification in the development of the equations for this model have thus far prevented its effective use. When asked to comment on his hunch regarding the model's ultimate findings on term structure theory, Mr. Bosworth indicated that he expects it, too, to give general support to the "expectations" hypothesis and to show relatively small, short-lived rate effects from changes in debt structure.

Table 3

Maturity Distribution of System Security Portfolio (As of April 23, 1975)

	Amount in Billions of \$	Per cent of Total
U.S. Government Securities		
Maturing: - Within 90-days - 91-days to 1-yr Over 1 yr. to 5-yrs Over 5 yrs. Total	27.2 20.9 21.5 13.3	30 23 24 <u>15</u> 92
Federal Agency Securities		
Maturing: - Within 90-days - 91-days to 1-yr Over 1-yr. to 5-yrs Over 5-yrs.	.5 .6 2.6 <u>1.8</u>	* * 3 <u>2</u>
Total	5.5	6
Other 1/	2.2	<u>2</u>
Grand Total	90.6	100

 $[\]underline{1}/$ Includes all securities held against Rp's and some outright holdings of bankers acceptances.

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growth in the System portfolio. In this earlier episode, purchases were facilitated by swaps out of bills and other short-term issues, making it possible to acquire longer maturity coupon issues even when the Desk had no need to supply reserves.

In the past, the principal concern about large Desk operations in coupon issues has been that the volume of Desk activity might begin to dominate the market and discourage ordinary investment activity by others. When prices of coupon issues begin to move erratically on the basis of changing dealer expectations about System buying, other investors find it difficult to make investment decisions that reflect judgments about more fundamental trends in the economy.

In the months to come, the sheer magnitude of Government borrowing will force the Treasury to make frequent sizable new offerings of coupon issues, as well as bills. This will involve sizable temporary accumulations in the underwriting positions of dealers and other market professionals and will contribute to expanded general trading activity. In these circumstances the Desk should have ample opportunity to increase its acquisitions of coupon issues without having to add greatly to its share of total market activity.

Of course, it may not be possible for the Desk to continue acquiring coupon issues at the very active pace of recent months. The volume of market offerings in the recent period strongly reflected changed market expectations about rate trends. As expectations of further cyclical rate reductions were eroded, market professionals moved aggressively to cut back on inventories accumulated when rates were still expected to decline. The heavy continuing volume of new Treasury

debt offerings should, nevertheless, provide an ample floating supply of purchaseable coupon securities. The record amounts of Federal agency securities acquired in 1974 were—as noted earlier—a direct reflection of the persistently large volume of new agencies being forced on a generally weak market.

If the Open Market Committee should elect to maintain a substantially expanded program of Desk buying in coupon issues over the months ahead, three types of constraints on the size of the program would probably be needed. One would be to avoid excessive expansion in the bank reserve base. A second would be to avoid Desk operations in magnitudes that would dominate price movements and erode the willingness of others to participate in the market because interest rates had become unrealistically low; any erosion of the private market for longer-term Treasury debt would, over the longer-run, seriously impede the ability of the Treasury to undertake a balanced debt management program. A third constraint is the desirability of avoiding substantially greater pressures on short-term markets than would otherwise prevail.

So far in 1975, the weight of Treasury bill financing on short-term rates has been cushioned by the limited supplies of new debt being issued in markets for commercial paper and bank CD's. Later in the year, however, as economic recovery begins to be accompanied by rising private short-term credit demands, upward pressures on short-rates can be expected to intensify. Overly rapid increases—even in short rates—could begin to

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reverse recently improved flows to thrift institutions and limit the desired recovery in housing.

Since heavy Treasury financing requirements are thus likely to be exerting upward rate pressures on both the short and longer-term sectors of the Treasury market, the Desk should not be locked into a program of expanded buying in coupon issues alone. Flexibility will be needed to channel Desk purchases into whatever market sector secondary offerings appear to be in the greatest relative abundance. Such an approach will permit substantially expanded buying of coupon issues, but, of course, the Desk needs leeway to adjust its pattern of operations as developments in the market dictate.

Appendix I Annual Changes in Structure of System Portfolio (In millions of dollars)

Type and Maturity of Issue	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975*
Treasury Bills1/	293	- 751	1699	1903	3056	2704	<u>4171</u>	<u>2781</u>	3509	3700	4190	- 490	<u>7232</u>	1280	<u>2</u> /
Treasury Coupons Redemptions Under 1-yr. 1-5 yrs. Over 5-yrs.	1445 - 295 - 874 1826 788	2507 683 1461 363	1406 2 793 611	1021 5 465 551	915 - 15 500 430	474 199 208 67	50 663 440	1176 319 512 345	708 143 311 254	99 848 342	2663 81 1338 1244	1304 - 278 87 789 706	1415 207 579 629	1747 320 797 630	2835 181 1280 1375
Federal Agencies Redemptions Under 1-yr. 1-5 yrs. Over 5-yrs.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	485 199 187 98	826 - 233 46 592 421	- 237 120 400 345	2765 - 317 439 1665 977	586 69 169 344
Total change ^{3/}	1733	1760	3121	2914	3988	3172	5330	3939	4223	4982	7362	1630 ⁴	9273	6303	2/
Memo: Net of change in Rp's-SP's	- 258	238	- 297	469	- 171	383	- 525	- 259			1504	-1358	- 46	- 154	<u>2</u> /

n.a.--Not applicable. */January through April.

Includes net redemptions in bill auction.

Seasonal pattern of change makes comparison with annual figures misleading.

Total changes include small shifts in outright holdings of bankers acceptances not shown separately.

Nearly \$3½ billion of reserves were supplied through a basic restructuring of reserve requirements in the fall of 1972. Other key years in which reserves were supplied through reserve requirement reductions were 1962 (+\$770 million), 1967 (+\$850 million), 1970 (+\$500 million), and 1974 (+\$1220 million). Key years in which reserves were absorbed through reserve requirement action were 1966 (-\$865 million), 1968 (-\$550 million), 1969 (-\$1060 million) and 1973 (-\$955 million).