

C O P Y

UNDER SECRETARY OF THE TREASURY

Washington

July 2, 1956

Dear Win:

Thank you very much for your note of June 28th with your observations on the housing proposals. You and I are not very far apart.

Sincerely yours,

(signed) Randy

W. Randolph Burgess

Mr. Winfield W. Riefler
Assistant to the Chairman
Board of Governors of the
Federal Reserve System
Washington 25, D. C.

7/11/56 - Original of this letter sent to files.

MEMORANDUM

June 28, 1956.

To: Randolph Burgess,
Department of the Treasury

From: Winfield W. Riefler

This is in response to ^{oral} your request for my personal reactions to the "Housing Act of 1956," H. R. 11742, reported out recently by the House Committee on Banking and Currency.

As you know, I have long been concerned about the degree to which successive Federal housing programs have departed from the sound economic principles and public policies embodied in the original Federal Housing Act. You will also recall that I was particularly disturbed in this connection in January when I saw the Administration's recommendations for liberalization of F.N.M.A.

I am even more disturbed by the bill reported to the House. In particular, the sections even further stimulating the Federal National Mortgage Association's activities and authorizing use of National Service Life Insurance reserves to support VA-guaranteed mortgages are especially unsound and dangerous to the financial structure.

A considerable part of the bill is highly technical, in the sense that it stipulates details of specific programs. I personally have strong reservations about writing such minutiae into public policy statutes on the grounds that such a multitude of special details is unnecessary if the basic framework has been thought through. In the framework of things more or less as they are, however, I am largely neutral to this part of the bill. This comment includes the liberalization of the FHA Title I program for modernization and repair loans; equalizing the terms of mortgage insurance for old and new houses; and providing adequate insurance authority for FHA. Many of the provisions concerning the slum clearance, urban renewal, public housing programs, and the proposal for housing for the elderly are also in this category.

My reaction to the armed services housing proposal is that one paragraph in the Committee Report should be very carefully considered, namely:

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"Although the advantages of providing needed military housing directly through use of appropriated funds are generally conceded, it must also be recognized that budgetary considerations would not permit the expenditure in 1 or 2 fiscal years of the sums needed to meet the immediate total need. Accordingly, your committee believes that extension and improvement of the title VIII military housing program is the most practical vehicle for providing a large quantity of military housing quickly through the utilization of private mortgage capital to be repaid from quarters allowances of eligible service personnel."

In other words, the economic resources involved are going to be preempted for public purposes, but the financing will appear to be private. This goes against my instinctive principles of sound public finance. If the Government guaranty is to be so absolute that all the risk will be assumed by the Government, I do not see that either a public purpose or a fiscal purpose is furthered by financing this construction through private mortgage instruments with their higher ultimate costs to the Government.

To sum up, my impression is that the only provisions of the bill that are really necessary at the present time are extension of the FHA repair and modernization program, and providing for adequate housing for the armed services. The first of these could be taken care of in a sentence. The second might require more study, but a simple appropriations bill might be much better than the present bill.

One important matter the bill does not touch on is the way in which the VA mortgage guaranty and insurance program is to be terminated. The early and effective termination of this program is probably as important to the long-term development of a sound mortgage market as well as a sound home building industry as anything contained in the bill. Another important point which is not dealt with in the bill is the matter of frozen interest rates. If interest rates on mortgages underwritten by the Government were free to respond in both directions to market forces, the pressure to open up F.N.M.A. and to raid the National Service Life Insurance reserves would be greatly alleviated. In addition, because the capital markets would operate more smoothly, many of the other pressures that we now experience for special legislation in favor of one or another group would also be reduced.

Winfield W. Riefler.

WR/WWR:els

6/29/56 - File and Date copies sent to Files.

April 10, 1956

Experience Since the Accord
with Short-dated Federal Debt

Five years ago, on March 4, 1951, the Secretary of the Treasury and the Chairman of the Board of Governors and of the Federal Open Market Committee of the Federal Reserve System issued the following joint announcement:

"The Treasury and the Federal Reserve System have reached full accord with respect to debt-management and monetary policies to be pursued in furthering their common purpose to assure the successful financing of the Government's requirements and, at the same time, to minimize monetization of the public debt."

It is the purpose of this memorandum to review the experience both of the Treasury and of the Federal Open Market Committee with respect to short-dated Government debt in the intervening years, in particular those aspects of the short-dated debt that bear on the twin objectives announced in the accord, namely, (1) successful financing of the Government's requirements, and (2) minimum monetization of the public debt. This memorandum interprets the latter phrase to mean minimum obstacles to the pursuit and application of monetary policies directed solely toward fostering high level economic growth with stability and preserving the purchasing power of the dollar.

The past five years, since the accord, have been characterized by outstanding constructive accomplishments all directed toward restoring to the American economy the kind of flexible, self-reliant, resilient money market it needs if it is to function effectively as an enterprise economy. Among the most outstanding of these accomplishments, certainly, is the demonstration made by the Treasury that it can stand on its own feet in

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meeting its financial requirements. The meticulous analyses of this memorandum have been written from that background. They could not have been written, indeed, they would be completely irrelevant, if the Treasury had not demonstrated that it could function in an objective relationship both to the money market and to the Federal Reserve System. If the analyses made in this memorandum have merit, it is hoped that they will contribute toward an even further improvement in the techniques of Treasury financing.

Volume of Short-dated Debt

The short-dated Federal debt is defined in this memorandum to include (1) Treasury certificates and Treasury notes having 15 months or less to run at time of issue, and (2) Treasury bills. The total short-dated debt outstanding in the market, so defined, has averaged around \$35 billion since the accord. About half has consisted of Treasury certificates and short notes, and about half of Treasury bills (see Table I). The importance both to the Treasury and to the Federal Reserve System of these short-dated debt instruments is illustrated by the fact that they have represented around one-sixth of the debt of the Treasury held by the general public, and in addition the bulk of the securities held in the Federal Open Market Account.

Cash Raised by Short-dated Debt

The fact that since the accord this large body of short-dated debt has been maintained outstanding in fairly continuous volume indicates, of itself, that it has for the most part been refinanced at maturity by the issue of new short-dated debt. Both bills and certificates have also, however, been used to raise new cash, either as part of the regular financing of the Treasury or to meet temporary financing needs in the form

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TABLE I
U. S. Treasury Bills, Certificates and Short Notes
(15 months or less at time of issue)
(In millions of dollars)

	Dec. 31 1951	Dec. 31 1952	Dec. 31 1953	Dec. 31 1954	Dec. 31 1955	Average for 5 years
Total Outstanding						
Bills	18,102	21,713	19,511	19,506	22,313	20,229
Certificates & short notes	29,078	27,254	34,561	28,458	36,760	31,222
Total	47,180	48,967	54,072	47,964	59,073	51,451
In Federal Reserve and Government Trust Funds and Agencies						
Bills	646	1,427	3,095	2,255	2,060	1,897
Certificates & short notes	12,842	12,595	13,029	13,886	17,604	13,991
Total	13,488	14,022	16,124	16,141	19,664	15,888
In Market						
Bills	17,456	20,286	16,416	17,251	20,253	18,332
Certificates and short notes	16,236	14,659	21,532	14,572	19,156	17,231
Total	33,692	34,945	37,948	31,823	39,409	35,563

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of tax anticipation issues. For the five years since the accord as a whole, just over \$20 billion of cash have been borrowed through the issue of certificates and short-dated notes, and nearly \$19 billion through the issue of bills (see Table II).

This memorandum has not been directed toward a review of these cash offerings. It concentrates rather on developments connected with the refinancing of maturing debt through the offering of short-dated paper. Specifically, since a very different technique has been employed by the Treasury when it refinanced through the issue of certificates or short notes than when it has "rolled over" maturing bills, the memorandum tries to analyze the extent to which differences in experience with the two classes of obligations may be associated with these differences in techniques of financing.

Techniques of Refinancing Certificates and Short Notes

Conditions of success. In each of the five years, there have been at least four occasions when the Treasury has come to the market to refinance maturing issues of certificates or short notes. On each such occasion, the amount to be refinanced has summed up to several billion dollars. The method used has been to offer holders of a maturing issue a new certificate or short note in exchange. At times a choice has been offered between such a new short-dated obligation and a longer-dated intermediate obligation.

To effectuate such an exchange through the market and to avoid large attrition, i.e., large presentations of the outstanding issue for cash redemption at maturity, a number of difficult and delicate decisions must be made by the Treasury. It must decide, first, the exact maturities of the obligations to be offered in exchange. This involves three major

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TABLE II

New Cash Raised since the Accord
by Issue of Treasury Bills, on the one hand,
and Treasury Certificates and Short Notes, on the other
(In millions of dollars)

	Cash raised during					Total
	Last 10 mos. 1951	1952	1953	1954	1955	
Bills						
Regular	1,987	1,592	2,300	—	1,300	7,179
Tax anticipation	2,483	4,505	800	2,509	1,501	11,798
Total	4,470	6,097	3,100	2,509	2,801	18,977
Certificates and short notes						
Regular	—	—	—	—	2,532	2,532
Tax anticipation	—	—	5,902	3,734	8,381	18,017
Total	—	—	5,902	3,734	10,913	20,549

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considerations, first, their effect on the general maturity distribution of the public debt, second, the effect the new maturities may have on the money market when they in turn come up for refinancing (whether, for example, the market will then be clogged with other maturing issues or will face untoward seasonal pressures), and, finally, whether the maturity of the new security will meet the preferences of the market sufficiently adequately to make the exchange a success. Corporations, for example, have in general been more reluctant than banks to exchange maturing issues into securities of more than one year. As a result, if a large portion of a maturing issue is held outside banks, redemptions for cash may be substantial if a note, even a very short-dated note, is offered for exchange.

Far outshadowing these decisions is the decision on pricing of the new issue. This is the most important decision by far that the Treasury must make as it approaches a refinancing operation involving the offer of certificates or short notes. The requirements of good pricing are exacting and elbow room for decision is restricted. In pricing is included both the coupon on the new issue and the exchange terms, i.e., the dating of the offering of the new issue and interest adjustments, if any, that may be made to holders who turn in the old issue for exchange. In such an exchange operation, the pricing must be sufficient (1) to induce continuing investors to accept the exchange rather than take cash on the maturing issue, such cash to be subsequently invested in other securities, and (2) to induce new investors either to buy the maturing issue in order to obtain its exchange privileges or to buy the new issue on a when-issued basis from security dealers. Security dealers act as intermediaries during the Treasury refinancing, buying maturing issues

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including their exchange rights from holders who desire cash and selling against them when-issued securities--or taking the when-issued securities into position. The pricing of the new issue essential to accomplish the second of these objectives is necessarily higher than the pricing to cover the first, since the service of an intermediary, which must be recompensed, is an integral part of the transaction.

While, of course, a sufficiently high coupon on the new issue can usually meet both requirements and thus insure adequate subscription to an exchange offer, the Treasury must have regard also to the effect of the interest rates it offers on the cost of servicing the public debt. It also is loathe to offer coupons in its pricing so high that they may upset the expectations of the market as to future interest yields. The practical sum of these considerations is to place narrow limits on the range of possible pricing of a new issue and frequently to leave in considerable doubt the question of whether the prices actually announced will, in fact, clear the market or whether redemptions will be uncomfortably large.

Treasury consultation arrangements. A long shadow is cast by the prospect of a forthcoming Treasury refinancing operation in certificates and short-dated notes. Months before the outstanding issue matures, its price in the market begins to reflect not only current interest rates but also expectations as to the terms of the prospective issue to be offered in exchange. About a month before the actual maturity, invitations are received by professionals in the market to consult with the Treasury and submit their views on the issues and terms that might meet the requirements of the situation. These professionals include usually at least two groups,

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one composed of commercial bankers and one composed of investment bankers. They usually gather in Washington about three weeks or more before the actual redemption date of the maturing issue. Simultaneously with these consultations, the Treasury discusses the same range of problems with the various officials of the Federal Reserve System. With the help of all of these consultations, the Treasury comes to a final decision on the terms of an exchange offering.

Once these terms are announced, the huge operation is in motion and the market is usually sensitive and at times tense to even relatively slight changes in the play of market forces so long as the subscription books are open. This condition relaxes somewhat thereafter but the atmosphere of the market may remain delicate until the degree of attrition or redemption is known and until when-issued securities in dealers' portfolios have been absorbed.

Federal Reserve participation and market preparation. The long shadow of these recurrent refundings is also reflected within the Federal Reserve System. In deliberations of the Federal Open Market Committee held as long as two months to six weeks before Treasury refundings, considerable discussion is devoted to the fact that such operations are in the offing, the effects they may have on the market, and the degree to which they may limit the freedom of the Federal Open Market Committee to conduct operations in pursuit of its monetary objectives. These considerations mount in importance as the date of the refunding nears, and are taken more and more into account in the actual conduct of Federal Reserve operations.

In 1951 and most of 1952, the Federal Open Market Account intervened directly in the market to minimize attrition to the Treasury through

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redemption of maturing Treasury issues. It then stood ready to buy offers of the maturing issue, i.e., "rights", at a small premium above par in the market. This made it more profitable for any holders of the maturing issue who wanted cash to sell the issue to the Federal Reserve rather than to let it run to its redemption date. It achieved its purpose of minimizing potential attrition on redemption to the Treasury, in effect, by absorbing the same attrition into the portfolio of the Open Market Account, since securities so purchased were invariably exchanged by the Reserve Banks for the new offering.

At times, also, the Federal Open Market Account placed orders for the when-issued securities or for other securities in the same sector of the market as the when-issued securities with the purpose of maintaining a pattern of yields in the market that would be in line with market expectations and thus convey the impression to the market that the exchange issue was properly priced. These operations were usually concentrated in the period between the announcement of the new offering and the close of the subscription books. Subsequently, after the exchange was over, attempts were made to dispose of securities so acquired or a corresponding amount of other securities if their retention was inconsistent with the more fundamental objectives of Federal Reserve policy.

These techniques of support of Treasury financing were discontinued toward the end of 1952. Since that time, the only direct intervention by the Federal Reserve in support of a Treasury refinancing operation was in November 1955 when \$167 million of when-issued securities were purchased because of fear that large scale impending attrition might occur on the current offering.

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Indirectly, however, Federal Reserve operations throughout the past five years have been affected before, during and after refunding operations, particularly refunding operations carried out when money was in active demand. Plans to tighten the money market, either through open market operations or discount rates, or both, have been speeded up or deferred with the object of having a stable money market, i.e., an "even keel", from the time the pricing of a refunding issue was announced through the wind-up of the operation. Operations in bills have also been conducted to secure an "even keel" during these periods. On some occasions, notably June and July 1953, when massive reserves were made available both through open market operations and reductions in reserve requirements, the timing of Federal Reserve actions was heavily weighted by problems associated with Treasury financing.

Preliminary evaluation. It is evident from this factual record of actions actively taken both by the Treasury and by the Federal Reserve during the past five years that the recurring periods when the Treasury has come to the market to refinance Treasury certificates and short-dated notes have not infrequently been the occasion for concern both at the Treasury and in the Federal Reserve System as well as for concern and at times tension in the market, and that Federal Reserve operations in the effectuation of its more general economic objectives have been affected by this situation. They have been affected both in terms of the timing of policy actions (no small matter when refundings come up at least four times a year) and in terms of the measures taken to supply funds to the market.

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Techniques of Refinancing Bills

The record of the five years is entirely different so far as concerns the refinancing of Treasury bills which comprise the other half of the market-held, short-dated Treasury debt. Treasury bills have come up for refinancing each week since the accord, i.e., fifty-two times a year, yet there has been no occasion for the Treasury to make an advance call for representative groups from the commercial bankers and investment bankers to advise on terms and conditions. Instead, the Treasury has confined itself to a routine weekly announcement of the date when bills in certain volume would be auctioned under certain conditions to pay off maturing bills. At times, the auction has also been used to raise some additional cash. In the great preponderance of these occasions, there has been no market concern or tension of any kind created by the announcement of the holding of the auction. At the most, there has been a very limited number of occasions when there was comment on whether the auction would result in a "long tail," or on very rare occasions in some quarters whether the auction would be covered. So far as effects on Federal Reserve monetary operations are concerned, they have, for the most part, been confined to deferring until after the bids are in any open market operations called for on the day when an auction is held. Repurchase agreements have also at times been made available to dealers on the day when payment for bills acquired at the auction was due in somewhat larger volume than otherwise. On a very few occasions some Federal Reserve authorities have verbally contacted the market to encourage subscription because of apprehension that the auction might not be covered.

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Technical Comparisons of Performance--Bills versus Certificates and Short Notes

An analysis of the technical results of Treasury refinancing operations in short-dated debt obligations during the past five years provides ample ground to justify the sharp contrast, on the one hand, in the concern and care with which both the Treasury and the Federal Reserve System have approached a refinancing date that involved certificates and short notes, and, on the other hand, the routine and almost casual preparation and attention they have afforded refinancing through Treasury bills. Since the accord, the Treasury has issued over half a trillion dollars of short-dated debt to refinance maturing obligations. Of this total, \$146 billion has consisted of certificates and short notes while the remainder, amounting to well over twice as much, or \$366 billion, has consisted of Treasury bills (see Table III). Despite this major disparity (which reflects in large part the shorter maturity of bills), the Treasury has never experienced one dollar of attrition when it has refinanced maturing obligations through offerings of bills. On the other hand, it has never failed to experience at least some attrition when it has refinanced maturing issues through offerings of certificates or short notes.

The facts of the record with respect to attrition for the five years since the accord are brought out in Table IV. As the table indicates, huge amounts of market attrition were avoided in 1951 and 1952 when the Federal Reserve purchased rights during periods of refundings. Something of the same kind, but in smaller proportion, occurred in November 1955, when both the Treasury and Federal Reserve helped to reduce the amount of technical redemption by purchasing when-issued securities. In general,

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TABLE III

Volume of Bills, Certificates and
Short Notes Issued by the Treasury in
Refinancing since the Accord
(In millions of dollars)

	Last 10 mos. 1951	1952	1953	1954	1955	1st quarter 1956	Total
Bills	48,049	65,641	74,330	78,037	79,325	20,812	366,194
Certificates & short notes	29,079	27,254	28,659	24,729	29,056	7,219	145,996
Total	77,128	92,895	102,989	102,766	108,381	28,031	512,190

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TABLE IV
Market Attrition and Officially
Avoided Attrition on Treasury
Offerings to Refinance Maturing Bills,
Certificates and Short Notes
(In millions of dollars)

	Last 10 mos. 1951	1952	1953	1954	1955	1st quarter 1956	Total
<u>Bills</u>							
Total amount offered for refinancing and financed without attrition of any kind, actual or potential	48,049	65,641	74,330	78,037	79,325	20,812	366,194
<u>Certificates and Short Notes</u>							
Total amount to be refinanced	24,990	29,080	26,755	28,659	24,729	8,472	142,685
Held by F. R.	10,703	10,355	11,988	12,809	13,882	4,012	63,749
Held by Treasury and other Gov't accounts	6	43	45	27	10	15	146
Held by market	14,281	18,682	14,722	15,823	10,837	4,445	78,790
<u>Attrition -- actual and potential</u>							
Avoided by F. R. purchases (rights)	1,460	2,108	none	none	none ^{1/}	none	3,568
Treasury and other Gov't purchases (rights)	none	none	none	none	1 ^{1/}	25	26
Market redemption	905	1,825	898	474	1,354	150	5,606
Total	2,365	3,933	898	474	1,355	175	9,200
Per cent of offerings to market	16.6%	21.0%	6.1%	3.0%	12.5%	3.9%	11.7%

^{1/} Further direct support of the May and December 1955 refinancings was provided by purchases of "when-issued" securities. In May, \$69 million "when-issued" securities were purchased for Treasury accounts and in November, \$256 million were purchased for Treasury accounts and \$167 million for the Federal Reserve open market account. In December, new offerings were issued to refinance both a certificate (with an original maturity of one year) and a note (with an original maturity of five years).

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the table shows that, even since 1952, although the Treasury has made every effort to price refunding securities realistically, some attrition has continued to characterize refundings. While it has usually been small, the fact that it has occurred at all is important in an analysis of financing techniques.

The factual record of the past five years reveals a similar contrast between Treasury bills, on the one hand, and Treasury certificates, on the other, with respect to an important aspect of their suitability for inclusion in the Federal Reserve portfolio. The facts are brought out in Table V. This table does not compare Federal Reserve bill transactions in the market with transactions in other short-dated securities, since the Federal Reserve, as a matter of policy during much of the period covered, has confined its market transactions for the most part to bills. What Table V does bring out is the suitability of the Treasury bill as compared with the Treasury certificate or short note for withdrawal of reserve funds from the market through the process of permitting Federal Reserve holdings of these securities to be redeemed at maturity in cash. The table shows that the System has invariably tendered in full maturing issues held in its portfolio when the Treasury was refinancing its debt through offers of certificates or short-dated notes. In total, such exchanges have amounted to \$67,020,000,000 during the period, an aggregate amount in the neighborhood of three times the total portfolio. In contrast, the Federal Reserve System has felt no hesitancy in allowing its holdings of Treasury bills to run off for cash when the withdrawal of the reserve funds involved would further monetary policy objectives. During the five years, Treasury bills in its portfolio in the amount of \$22,518,000,000 have matured. Of this amount, the

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TABLE V

Behavior of F. R. Portfolio
at Maturity of Holdings
(In million of dollars)

	Last 10 mos. 1951	1952	1953	1954	1955	1st quarter 1956	Total
<u>Bills</u>							
Exchanged for new offering	1,337	337	4,999	5,913	3,453	434	16,473
Redeemed in cash	1,519	517	242	1,946	1,223	598	6,045
<u>Certificates and Short Notes</u>							
Exchanged for new offering	12,457	12,463	12,844	13,882	11,362	4,012	67,020
Redeemed in cash	none	none	none	none	none	none	none

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Federal Reserve System has exchanged \$16,473,000,000 for the new bill offering, and has allowed \$6,045,000,000 to be redeemed in cash.

One final point needs to be noted in this review of the technical behavior of Treasury bills as compared with Treasury certificates and short-dated notes since the accord, namely, the contrast in the underwriting margin or premium that the Treasury has had to pay for marketing the two types of issues. This is shown in Table VI. There is an inescapable cost involved in marketing any type of security since, as pointed out earlier, the services of a middleman are involved. This has the effect of making the interest cost to the borrower of funds somewhat higher than the interest return received by the lender.

To measure this underwriting margin or premium presents some difficulty in the case of certificates and short notes but less difficulty in the case of Treasury bills. In the case of the latter, a close approximation of the increment in interest costs to the Treasury on an annual basis is achieved by subtracting the average market yield of 3 month Treasury bills from the average issuing rate on Treasury bills offered. As Table VI shows, the figures on an annual yield basis have varied somewhat from year to year but have averaged .04 of one per cent for the five years as a whole. To obtain a comparable annual figure for the underwriting premium on issues of certificates and short notes offered in refunding, the indicated market yield of the maturity of the new issues, as read from the yield curve, has been subtracted from the actual coupon rates of these issues. Both rates were weighted by the volume of maturing issues held by investors outside the Federal Reserve System. These computations indicate that the underwriting margin or premium on certificates and short-dated

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TABLE VI

Underwriting Margin or Premium of
Refinancing through Treasury Bills as Compared with
Certificates and Short Notes

	Last 10 mos. 1951	1952	1953	1954	1955	1st quarter 1956	Average 1951-56
<u>Bills -- 3-month</u>							
Average auction rate on new issues	1.585	1.766	1.931	.953	1.753	2.380	1.637
Market yield <u>1/</u>	1.55	1.72	1.90	.94	1.73	2.33	1.60
Underwriting margin or premium	.035	.046	.031	.013	.023	.047	.04
<u>Certificates and Short Notes</u>							
Weighted average coupon rate on new issues <u>2/</u>	1.88	1.96	2.34	1.27	2.05	2.63	1.95
Weighted average of market yields to maturity of new issue as shown by yield curve <u>2/</u>	1.70	1.87	2.17	1.14	2.00	2.57	1.84
Underwriting margin or premium	.18	.09	.17	.13	.05	.06	.11

1/ Weekly average of market yields on three-month bills. Use of this series tends to exaggerate the cost of refinancing by the auction method since the yields included are on issues of less than 91 days to maturity and the yield curve on bills normally rises with maturity. Other factors causing changes in bill yields during the week are assumed to be offsetting over the five-year period.

2/ Weighted by the volume of maturing short-dated notes and certificates held by investors other than the Federal Reserve System.

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notes, offered in exchange, have averaged .11 of one percent or nearly three times larger than the underwriting premium on an annual basis paid to market bills. As noted, these are the underwriting margins or premiums paid by the Treasury for marketing its securities on an annual yield basis. Since the Treasury comes to the market four times a year to refinance a given amount of borrowing through bills as compared to once when it refinances through certificates, this means that the underwriting premium per dollar of securities offered in a given refinancing has averaged 11 times higher when the offering consisted of certificates or short notes than it has when bills were offered. The relative magnitude of these differences deserves analysis. One would expect the underwriting cost per dollar issued to increase with maturity because marketability becomes more difficult as maturities lengthen. One would also expect, however, that underwriting costs on an annual rate basis would decrease as maturity lengthens since the per dollar cost is spread over a longer period.

Summary of Experience

In summary, if we examine the actual history of the past five years in the light of the objectives announced in common by the Treasury and the Federal Reserve at the time of the accord--"to assure the financing of the Government's requirements and, at the same time, to minimize monetization of the public debt"--we cannot help but conclude that experience with respect to that half of the market-held, short-dated debt which consists of Treasury bills has come much closer to carrying out those common purposes than have experiences associated with the half of the market-held Treasury debt that has consisted of certificates and short-dated Treasury notes.

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A warning is due at this point. While the above conclusion is irrefutable so far as the facts of the record are concerned, it should not be taken to imply that Treasury bills are in all essentials the equivalent of Treasury certificates and short-dated notes. They are not. Treasury bills differ fundamentally from certificates and short notes in that they have a much shorter maturity. They are part of the short-dated debt but are not the equivalent of certificates or short notes. The conclusion that does emerge from the record is that the recurrent financing of certificates and short notes has been the occasion of frequent concern and not infrequent tension in the market, has been the occasion frequently of diversion of Federal Reserve operations and actions from those they would otherwise have pursued to foster high level stability in the economy, and has been the occasion frequently for concern to the Treasury.

Evaluation

This review raises three questions for evaluation, (1) the degree to which the difference in maturity between 3 month issues and one year issues is important to the economy, (2) if the difference in maturity is important, the degree to which the differences in their refinancing experience reflect solely these differences in maturity, or (3) the degree to which the differences in experience reflect the differing techniques used in refinancing the two types of securities.

The Treasury has worked very hard during recent years to achieve a better balanced maturity distribution of the Federal debt. If, therefore, the superior record of performance of the Treasury bill reflects solely the fact that it is a 3 month debt instrument, as compared to the certificate which is usually a one year instrument, a fundamental policy question is

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raised with respect to all of the experiences brought out above. For example, if an increase in the volume of Treasury bills outstanding would over-liquify the money market, then the poorer market performance of the Treasury certificate, both from the point of view of the Treasury and the Federal Reserve System, would be worth all the concern, tension and minor crises attendant on its refinancing, and the attrition which has been experienced could be disregarded. The same considerations would apply to an evaluation of its higher underwriting costs and more limited usefulness as a component of the portfolio of the Federal Reserve System.

There is no categorical answer to the first question raised above. The problem is essentially one of individual evaluation. There are some observations, however, that can be raised for consideration. The first is that our economy has certain basic minimum liquidity needs, once filled by the call market for stock exchange loans, now filled by the Federal short-dated debt, particularly bills. These needs will grow, of course, as the economy grows. On the basis of market behavior since the accord, many observers would probably agree that, as of the present time, the 20 billions of Treasury bills outstanding, taken alone, are not sufficient to meet these basic liquidity needs. They might, therefore, welcome some addition to the supply of bills. Many of these same observers, however, would be much less categorical about whether the entire 35 billions of short-dated Treasury debt now outstanding in the market, including certificates and short notes as well as Treasury bills, is too small for the minimum liquidity needs of the economy. They might well feel that it is too large, and that further moves to refund this debt into longer-dated issues is warranted.

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As noted above, there is no categorical way of determining the correct answer to this problem. One indicated solution would be to refinance part of the market-held, short-dated debt, now represented by certificates and short notes, into Treasury bills, and simultaneously to refinance the remainder into a range of intermediate term debt obligations.

Each individual's reaction to the desirability of such moves and of the relative magnitudes that might be shifted out of certificates and short notes into bills, on the one hand, and intermediate securities, on the other, depends in part on his evaluation of the extent to which these differing maturity obligations are substitutable for each other. There is only one objective way to test these relative substitutability characteristics, that is to ascertain how the market itself has rated the various types of securities. This test is by no means conclusive but the relative values or yields which the market itself has placed upon these various obligations should indicate to some extent the degree to which they have been interchangeable on the average over the years for investment purposes. The results of such a test are shown in Table VII where the average yields of Treasury bills in the market since the accord are compared with the average yields on Treasury 9 to 12 month certificates, and also with the average yields on Treasury 3 to 5 year notes.

The table shows that over the five years Treasury bills have yielded the investor 1.60 per cent, while 9 to 12 month Treasury certificates have yielded the investor only slightly more, namely, 1.72 per cent. At the same time, the yield on 3 to 5 year Treasury securities has averaged 2.23 per cent. This indicates that the market itself has valued the one year

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TABLE VII

Market Yields on Treasury
Bills, Treasury Certificates 1/ and 3 to 5 Year
Treasury Bonds and Notes, 1951-1956

Class of issue	Last 10 mos. 1951	1952	1953	1954	1955	1st quarter 1956	Average 1951-56
3 month Treasury bills	1.55	1.72	1.90	.94	1.73	2.33	1.60
9-12 month taxable Treasury issues	1.77	1.81	2.07	.92	1.89	2.44	1.72
3-5 year Treasury issues	1.93	2.13	2.56	1.82	2.50	2.74	2.23

Yield Increment over Treasury Bills

9-12 month Treasury issues	.22	.09	.17	- .02	.16	.11	.12
3-5 year Treasury issues	.38	.41	.66	.88	.77	.41	.63

1/ 9-12 month taxable Treasury issues.

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certificate as an investment instrument only slightly less favorably than the bill, and that it has valued both very differently from Treasury 3 to 5 year intermediate obligations.

These valuations are not those that would develop if relative differences in maturity were reflected proportionately in market yields.

This point can be illustrated by comparing what the market valuation of a given body of debt, i.e., its market yield, would be if it consisted solely of certificates, on the one hand, or half of bills and half of 3 to 5 year notes, on the other. Both of these distributions of the debt would have the same average maturity. Assuming that the changed maturity distribution had no effect on yield, the former distribution of the debt, i.e., all certificates, would have had an average yield of around 1.72 per cent over the past five years, while the average yield on the latter distribution would have been around 1.91 per cent. The assumption that a changed maturity distribution would have had no effect on market yield is, of course, not valid. It certainly would have had some effect. Nevertheless, the comparison does suggest that the market has considered certificates as nearly equivalent to bills in terms of their substitutability, and that only moderate overall changes in liquidity would result from shifting proportions of the short-dated debt as between bills and certificates, while any equivalent shift from short-dated debt to intermediate debt would have exerted a much larger impact on the money market.

Techniques of Refunding-Evaluation

While they are by no means conclusive, these considerations suggest that the striking contrasts in experience over the last five years in refunding through issues of certificates and short notes as compared with

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refunding through bills do not reflect primarily the fact that bills are 3 month instruments while certificates and short-dated notes have a maturity at offering of around one year. They suggest instead that the striking differences in experience as between the two types of debt instruments may be accounted for primarily by the techniques used in their refinancing. If this is true, the poorer performance of certificates as refinancing instruments for the short-dated debt can possibly be corrected by adapting new techniques for their issue.

The remainder of this memorandum will concentrate on this problem. It will evaluate the techniques used in offering bills for refinancing with those now used in offering certificates and short notes and discuss the extent to which these techniques may account for the specific disabilities that have been associated with refundings where certificates or short notes have been offered.

Offerings for Cash with Cash Redemption as Compared with Offerings for Exchange Only

When certificates or short notes have been offered for refunding purposes, they have been offered exclusively on an exchange basis, i.e., no one could obtain them directly from the Treasury by paying cash--the only basis for obtaining the new issue has been the tender of the maturing debt obligation for which they were offered in exchange. This one factor in itself explains why there has invariably been some attrition on every refunding in which certificates or short notes have been offered. It does not explain the size of the attrition when it has been large, which may have been due to incorrect pricing, to changes in market conditions, etc., but it does explain why some attrition is inevitable, as a practical matter,

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even under the best conditions when securities are offered solely for exchange. The reason is that a large number of holders of Treasury debt obligations select issues for purchase that will mature at a time when they will be in need of cash. It would be asking the impossible to imagine that all such holders would sell these securities to someone else in the market during the few days between the announcement of the pricing and the close of the subscription books. If the same technique now used in offering certificates were applied to the weekly bill auction and new Treasury bills were offered solely for exchange for the maturing issue, there would undoubtedly be at least some attrition at every weekly offering.

This same fact explains why the market is frequently characterized by concern and mounting tension between the time of the announcement of the pricing of a new Treasury certificate or short note and the time when the subscription books are closed. It is in those few days that the amount of attrition is determined. When this technique is used, there is no possibility that cash subscriptions will offset cash redemptions. That door is closed. Instant success hangs or falls in the extent to which a rights premium develops on the maturing issue. It is only after the pricing has been announced that the market can estimate the attractiveness of the new issue and hence the price it is willing to pay for the maturing issue in order to be able to obtain the new issue by exchange. In turn, it is only after this price has been established that the holder of a maturing issue desiring cash can ascertain whether it would be more profitable to obtain that cash by selling the security in the market as against holding it for cash redemption. This means that the question of whether or not the Treasury is to be amply financed in the short future or whether it will be

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financially embarrassed and have to return to the market for more funds is necessarily uncertain until the books are closed.

The same technique accounts for the fact that the Federal Reserve has felt that it could not possibly redeem certificates and short notes from its portfolio for cash, even though their date of maturity happened to coincide with a date on which monetary policy called for the withdrawal of cash from the market. To redeem certificates for cash would not merely drain reserve funds from the market in general. It would also constitute a direct drain on the Treasury balance at a time when the Treasury was short of funds and might create serious difficulties.

This technique finally accounts for the fact that the Federal Reserve has at times intervened directly during a Treasury refunding by acquiring "rights" or by buying the ensuing when-issued securities. The purpose of such intervention has been to prevent greater attrition to the Treasury cash balance than the System with its manifold financial responsibilities felt it was willing to face.

None of these problems is posed when bills are offered because the technique used is one of cash offering and cash redemption. This means that of the total bids entered for subscription a considerable volume consists of new cash bids in addition to bids from holders of maturing issues who plan to replace their holdings with the new bill. As a consequence, new cash bids can be accepted in sufficient volume to cover cash redemptions of the maturing bills, provided only that the total amount offered is covered. This has always occurred by fairly wide margins. Under these circumstances, all possibility of attrition has been eliminated. Under these circumstances

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also, there has been no occasion for concern or mounting tension in the market, no occasion or necessity for the development of premia or rights values on the maturing issues, no reason why the Federal Reserve System should not let its bills mature if monetary policy calls for the withdrawal of cash from the market at the time, and no occasion for supporting purchases by the Federal Reserve of either the maturing issue or the new issue.

Now, there is no compelling reason why this same technique of offering certificates or short notes for cash and redeeming the maturing issue for cash should not be adopted. It is a technique, in fact, that is the one typically used in some other money markets. The record of experience during the past five years would suggest that it merits serious consideration for introduction here.

Auction versus Fixed Price Offerings

It was noted above that the Treasury pays a very much larger underwriting premium when it markets certificates as compared to what it pays when it markets bills. This larger margin is probably accounted for by the fact that bills are sold at auction whereas certificates and short-dated notes are "priced" before offering. This same factor also accounts in large part for the fact that the bill auction has invariably been "covered", i.e., more bills have been bid for than were offered. There have always been buyers whose bids were rejected, and as a necessary arithmetical consequence there have always been enough accepted bids to pay **off** all holders of maturing issues in cash without attrition that would deplete the Treasury balance.

When Treasury bills are offered, they are auctioned without reference to pricing. This means that buyers bid for blocks of bills at

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varying prices (yields). The dealers typically bid for a certain volume of bills they feel they must obtain at a price close to but just below their guess of the highest yield that will clear the auction. Customarily, however, they do not stop there. They also bid for additional blocks of bills that they would be willing to accept at a better price or higher yield, if for any reason their guess as to the stop-out bid proved wrong. When the bids are opened, the Treasury accepts that proportion of the total bids submitted which fills its announcement as to amount at the cheapest borrowing cost. The result is that the Treasury does not have to consult the market beforehand and guess the correct rate which will raise the desired funds. It actually pays the lowest interest rate at which the funds are available in the market. The degree of economy achieved by the auction technique is proved by the fact that the average interest cost of funds borrowed by the Treasury through bills is only imperceptibly higher than the average market yields of these bills. As brought out above, despite the fact that many of the bidders in the auction are dealers, i.e., intermediaries who secure bills at the wholesale auction to retail to ultimate investors, the underwriting premium or margin between the cost to the Treasury of borrowing through bills at auction and the yield to the ultimate investor has averaged only .04 of one per cent on a per annum basis. This margin covers the cost not of one but of four performances of the intermediary function by the professional dealers in the course of a year.

Treasury certificates and short notes, on the other hand, are "priced" at the time of the announcement of the offering. This means that the Treasury must use its best judgment in fixing in advance a yield for the entire projected issue that will bring in the marginal buyer whose

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subscription is essential to assure that the offering will be covered without undue attrition. Such pricing must be sufficiently above the closest estimate of the minimum the market will take to provide a cushion against contingencies which may result either from faulty estimates of the market by the Treasury and its consultants or from a variety of unforeseen or unforeseeable developments that may intervene between the time of the announcement and the closing of the subscription books. It is not surprising, consequently, in view of these considerations that the pricing has, in fact, been too low on occasion and has resulted in unexpectedly large attrition. It is also clear, however, that the pricing, on the average, has been somewhat higher than was required to clear the market. This is attested by the frequent rise of new issues to premia in the market after the refunding and also by the much larger average underwriting margin that has accompanied fixed price offerings as compared with the underwriting margin that has prevailed on issues of bills.

The degree to which fixed price offerings must result, on the average, in a loading of the underwriting premium can be visualized by imagining what would happen if the Treasury each Wednesday, when it prepared its Thursday announcement of the weekly bill offering to be subscribed for the following Monday, announced also a fixed yield at which the bills would be sold. To be confident that the offering would be oversubscribed, the Treasury would have to add several basis points to the yield it then expected would probably clear the market just to provide for the many abrupt changes that we know from our experience can be expected between Wednesday and Monday. Because the 3 month rate is more volatile than the one year rate, the result would certainly be an

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exaggeration of the experience with fixed pricing that has occurred in connection with the offering of certificates and short notes. There would be all too many disconcerting occasions when the Monday offering would not be covered and the Federal Reserve would be concerned as to whether or not it should take action, and simultaneously the Treasury, because its underwriting premium would necessarily be larger, would be paying a much higher rate of interest for the money it actually borrowed than it now pays under the auction technique.

Weekly versus Quarterly Refundings

As noted earlier, the volume of market-held bills is about equal to the volume of market-held certificates and short notes. The market-held bills are refinanced on a routine basis weekly in amounts averaging just under ~~\$1,600,000~~ ^{\$1,600,000,000}. In contrast, the Treasury comes to the market four or more times a year to refinance with certificates or short notes. The amounts of these individual operations vary, but if the pattern were held strictly to four times a year and if the amounts outstanding were distributed so that they matured evenly, about \$5,000,000,000 of market-held debt would be involved in each of these certificate or short note refinancings. This concentration of certificate and short note financing into about four operations in the course of the year is not accidental. Because of the concern and tension that typically accompanies these refinancings, great care has been exercised by the Treasury to come to the market to finance such debt on as few occasions as possible.

To the extent that tension is inevitable in connection with refunding operations, it is desirable to confine financing to as few occasions as possible. It may very well be true, however, that tension

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has been created by the sheer size of these offerings, and that the same sort of tension might be found in some degree in the refinancing of Treasury bills if bills were refinanced only four times a year in operations that involved sums as large as \$5,000,000,000. This suggests that some tension could be removed by refinancing all short-dated debt by offering recurrently smaller amounts of new issues for cash on an auction basis. In other words, consideration could very well be given to making the roll-over of one year securities as routine and casual an operation as is now the roll-over of bills. Consideration might be given, for example, to refunding each week about \$400,000,000 of market-held one year obligations on an auction basis such as is now used for bills, or consideration might be given to a similar auction of \$1,700,000,000 of one year securities each month. The securities might be auctioned either on a discount basis or a coupon basis. They might be auctioned for cash payment as is the case now with bills, or payment might be taken in Tax and Loan Account. Tax and Loan Account credit, in fact, could be made a powerful instrument for insuring coverage of the auction, even though the cash proceeds of the security were ultimately used solely for refunding the maturing debt. If such a technique were used, the average underwriting premium would most certainly be lower. As noted earlier, the underwriting premium on 91 day bills has averaged only .01 per cent for each approach to the market. This cost would be somewhat higher for certificates because of their longer maturity. In the case of certificates, however, it would be incurred only once a year. Theoretically, it could be expected as a result that the per annum rate of underwriting cost applicable to borrowing through the auction of certificates would be lower

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on the average than the .04 per cent that has prevailed on bills.

Conclusion

It has not been the purpose of this analysis to deal with the complete range of technical problems that have been raised by the existence of the huge body of Federal debt inherited from the War. It has concentrated wholly on the short-dated debt and, even in this area, on problems associated with refinancing. None of the suggestions is original or new. The only reasons for bringing them up for consideration at this time are (1) that the passage of a considerable period of time since the return to free money markets has presented us with a record of fresh experience that merits analysis, and (2) that the difficulties inherent in refinancing operations involving certificates and short-dated notes have become a matter of increasing concern during the past year of firmer and firmer money markets. It is always to be expected that firm markets will create some difficulties, but it is always possible that these difficulties can be minimized by a fresh look at techniques.

Winfield W. Riefler.

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Expense with
about dated debit