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The Role of Savings Bonds in Postwar Saving and Federal Debt Management

In the pattern of individuals' saving and financial asset holdings, Series E bonds occupy a position similar to that of savings accounts of private financial intermediaries. Like savings accounts, E bonds generally are suitable for investors with limited resources who seek liquid, riskless investments. Both E bonds and savings accounts are held by large numbers of individuals in most income, asset, age, and occupation groups (Chapter 3). Despite some differences with respect to investment characteristics, distribution of holdings, and rates of turnover of outstanding amounts, E bonds and savings accounts appear to serve similar financial needs of individuals in similar economic circumstances.

Accordingly, E bonds appear to be more closely competitive with savings accounts than with any other major type of investment medium that is widely held by individuals. In a broader sense, savings bonds are competitive with a wider array of savings media. In recent years, when interest rates on marketable bonds rose substantially above savings bond yields, some individuals appeared to switch from E and H bonds to marketable Treasury obligations. F, G, J, and K bonds, particularly, appear to have been close alternatives to marketable bonds in the portfolios of wealthy investors.

In Treasury finances, savings bonds occupy a unique position (Chapter 2). They represent the bulk of the nonmarketable federal debt held by private investors, and are the principal means by which the Treasury has borrowed from individuals in recent decades. Unlike other types of Treasury securities, E bonds are continuously available to purchasers and are offered at rates that are held constant for extended periods of time.

Just as there are alternatives to savings bonds as investments for individuals, so are there numerous alternative means of financing federal expenditures. In a broad sense, savings bond financing, like any other type of borrowing, may be regarded as an alternative to taxation, at one extreme, and new money creation, at the other. For the purpose of this paper, a more relevant comparison may be made between savings bond financing and other methods of borrowing. As already indicated, one potential alternative suggested by some observers is the sale to individuals of marketable bonds or other securities that, unlike savings bonds, cannot always be liquidated without loss. In short, the Treasury would change the nature of the securities offered to individuals, but would still seek to borrow directly from them. Another alternative would have the Treasury abandon direct borrowing from individuals and borrow solely from institutional and corporate lenders. Under this method, the Treasury, in effect, would rely on private intermediaries to gather up the savings of individuals and would seek to borrow the funds from the intermediaries. In appraising the role of savings bonds in debt management, it is helpful to bear these alternatives in mind.

ROLE IN SAVING

The importance of the savings bond program in individuals' saving has varied greatly during the postwar period. As indicated earlier, net additions to savings bond holdings accounted for a significant proportion of the flow of individuals' financial saving during the early postwar years, although much less than during World War II. The \$6.3 billion increase in nonfarm households' holdings of savings bonds during 1946-50 represented about 8 per cent of gross financial saving and 27 per cent of the total gain in their holdings of savings deposits, shares, and bonds (Table 11). For E bonds alone, the corresponding percentages were 4 per cent and 16 per cent.

Except for any influence the program may have had on the total volume of personal saving (discussed below), the growth of savings bond holdings stemmed from the diversion to the Treasury of savings that would otherwise have been accumulated in other media. Although the incidence of the net inflow of funds into the savings bond program cannot be determined precisely, it probably was borne partly by private

financial intermediaries, particularly savings departments of commercial banks, mutual savings banks, and savings and loan associations. To the extent that the program diverted funds from private noncommercial-bank financial intermediaries, it tended to reduce the total assets of these intermediaries relative to what their assets would have been had the Treasury made no effort to borrow directly from individuals.

Net purchases of savings bonds during this period may also have diverted funds directly from investment in capital market instruments, as well as indirectly, by reducing the growth of intermediaries. About 55 per cent of the growth of nonfarm households' savings bond holdings during this period was due to bonds other than Series E; and, as indicated earlier, investors in F, G, J, and K bonds appear to shift between savings bonds and marketable securities more readily than holders of E bonds. In part, the growth of savings bond holdings may have reflected merely switches by investors from marketable Treasury securities to higher-yield savings bonds.¹

Beginning in 1950, annual net additions to savings bond holdings declined sharply in absolute terms and relative to gross financial savings, and later were succeeded by net reductions. For the eight-year period 1951-58, savings bond holdings of individuals declined by \$2 billion. Since their holdings of United States government securities other than savings bonds also declined (Table A-3), it would appear that in the aggregate funds obtained by investors through net redemptions of savings bonds flowed largely into private financial intermediaries and other nonfederal investment media, except to the extent that they were used to finance consumption or to repay debts. In 1959, individuals purchased a substantial amount of marketables according to Treasury data; this suggests that funds obtained through redemption of savings bonds in that year were used partly to purchase other types of Treasury securities. In 1960, however, liquidation of savings bonds was again accompanied by liquidation by individuals of other Treasury securities.

The decline in the growth of savings bond holdings was concentrated in bonds of series other than E and H. Net additions to E- and

¹ According to Treasury estimates, individuals (including partnerships and personal trust accounts) reduced their holdings of Treasury obligations other than savings bonds by \$4.5 billion during 1946-50, while they increased their holdings of savings bonds by \$6.7 billion. During this period yields on long-term marketable United States government bonds were below the 2.5 per cent yields to maturity of F and G bonds and well below the 2.9 per cent rate on E bonds.

H-bond holdings were actually higher in dollar amount on an average annual basis during the 1950's than in previous postwar years, but were substantially lower relative to other forms of savings, representing in 1951-58 only 3 per cent of gross financial saving and 9 per cent of net additions to savings deposits, share accounts, and savings bonds of nonfarm households (Table 11).

In addition to influencing the allocation of saving, the savings bond program may have had some effect on the total level of saving. No definite conclusion can be reached on this particular point. It may perhaps be argued that the savings bond program encourages saving (raises the propensity to save) by exerting an upward pressure on rates of return paid to savers through competition with other forms of personal saving, helping to provide variety in savings media, and instilling habits of thrift. It may be argued, further, that the program is a more effective means of stimulating saving by individuals through Treasury action than alternative methods of borrowing. Such arguments assume that changes in interest rates and promotional activity significantly affect the propensity to save, a view which involves basic theoretical considerations that are beyond the scope of this paper.

It is also sometimes suggested that the program significantly affects aggregate saving by means of the discipline of periodic deductions from wages for the purchase of E bonds through the payroll savings plan. Such periodic wage deductions may induce some individuals to save a greater proportion of their incomes than if they attempted merely to set aside funds "left over" after consumption expenditures.²

Sales of E bonds through the payroll savings plan have been a prominent feature of the savings bond program since the early years of World War II; similar methods of saving are not available widely at private savings institutions. Participation in the plan declined precipitously at the end of the war, but rose somewhat in more recent years. In fiscal 1954, payroll deductions amounted to \$160 million a month,

² Results of a survey of consumer saving in early 1946 suggest that spending units that had a definite plan for systematic savings, such as the payroll savings plan, tended to save more of their incomes than other spending units (see *National Survey of Liquid Asset Holdings, Spending, and Saving*, Part II: *Relation of Saving and Holdings to Income*, Bureau of Agricultural Economics, July 1946, pp. 34, 35). This does not necessarily indicate that definite planning and periodic outlays for savings bonds or other assets do in fact facilitate saving. It may indicate merely that spending units with high propensities to save tend to choose a means of regular saving or that spending units with low propensities to save find it difficult to carry out programs of regular saving.

according to Treasury reports.³ They represented one-half of average monthly sales of E bonds. Here again there is little basis for definite conclusions. Part of the inflow into the program from payroll deductions may have reflected additional saving; part presumably reflected the diversion to the Treasury of funds that would have been saved through other means. Moreover, postwar sales through the plan may have been offset in large part by redemptions. Adequate data on sales through payroll deductions and redemptions of bonds previously sold by this means are not available. However, as indicated in Chapter 4, about one-half of the amount of \$25 E bonds sold in each year during the postwar period, and two-fifths of all \$50 E bonds, have been redeemed within one year after being issued. If the record of small-denomination E bonds may be assumed to reflect that of the payroll savings plan, it would appear that a substantial proportion of bonds sold through the plan have been fairly quickly redeemed.

In considering the effects of the savings bond program on postwar saving, attention should be focused not only on postwar sales and redemption activity, as above, but also on the large holdings of these bonds left over from World War II. It has been suggested that the large stock of readily redeemable savings bonds and other liquid assets built up through federal deficit financing during the war stimulated postwar consumption. The precise nature of the link between liquid asset holdings and spending has been discussed at length in the literature, but remains in doubt.⁴ Various suggestions have been made about how a major increase in liquid asset holdings of the magnitude experienced during World War II may affect propensities to save and consume. For example, increased liquid asset holdings may reduce the need and desire

³ *Annual Report*, Treasury, 1954, p. 157.

⁴ The lengthy list of references on the effects of changes in wealth on spending behavior includes Gardner Ackley, "The Wealth-Saving Relationship," *Journal of Political Economy*, April 1951; James S. Duesenberry, "The Determinants of Savings Behavior: A Summary," in *Savings in the Modern Economy*, ed. Walter W. Heller *et al.* (Minneapolis, University of Minnesota Press, 1953), and comments by James Morgan and James Tobin in the same volume; Lawrence R. Klein, "Estimating Patterns of Saving Behavior from Sample Data," *Econometrica*, October 1951; Richard A. Musgrave, *The Theory of Public Finance* (New York, McGraw-Hill Book Company, 1959), Chap. 22; Don Patinkin, *Money Interest and Prices* (Evanston, Roy Peterson and Company, 1956); James Tobin, "Asset Holdings and Spending Decisions," *American Economic Review*, May 1952, pp. 109-123; and Arnold Zellner "The Short-Run Consumption Function," *Econometrica*, October 1957, pp. 552-567.

to accumulate liquid reserves out of current income for future emergencies or to meet specific savings goals. A large stock of liquid assets may facilitate dissaving through asset liquidation and tends to shield holders from the effects of restrictive monetary policy actions. Much more complex hypotheses also have been advanced. To the extent that the existence of large holdings of liquid assets stimulates or permits increased spending relative to the stock of money, income velocity⁵ is stimulated.

Alternative wartime financing programs might have had different effects on postwar consumer spending. Compared with savings bond financing, a wartime program of greater taxation of personal income and less borrowing from individuals would have resulted in smaller postwar holdings of liquid assets and, presumably, a lower postwar level of spending relative to income.⁶ Alternatively, a program designed to induce or force individuals to acquire marketable bonds or securities with restricted redeemability also might have resulted in a lower level of postwar spending than savings bond financing, to the extent that propensities to consume are directly related to the degree of "moneyness" of individuals' financial asset holdings. On the other hand, a policy of borrowing solely at the institutional level might have had much the same effect on postwar consumption and saving as the program to the extent that funds that were actually used to purchase savings bonds would have been channeled into other liquid savings media. A lack of conclusive empirical evidence on the influence of changes in the size and composition of financial asset holdings on the behavior of consumers makes it difficult to appraise the magnitude of these differences in impact on consumer spending.

With respect to the effects of savings bond holdings on the ability of individuals to dissave during the postwar period, it should be noted that although many savings bond holders presumably did liquidate savings bonds during the postwar period in order to finance spending (they may have bought savings bonds in wartime for precisely that purpose), E-bond redemptions were lower relative to outstanding amounts during the period after 1946 than during the late stages of

⁵ Defined as gross national product divided by demand deposits adjusted and currency outside banks.

⁶ Greater wartime taxation of personal income would also have a different effect on private spending, incentives, and production during the war. Such differences would have to be taken into account in any meaningful appraisal of the relative merits of the savings bond program and alternative war finance measures.

World War II. A sharp rise in E-bond redemptions might have been expected in view of pent-up consumer demands. Redemption rates of other series also remained fairly low during the early postwar period, rising in the 1950's principally because of F- and G-bond maturities and the increased relative attractiveness of alternative investments. Moreover, while some holders liquidated their bonds, others channeled new funds into the program, and the aggregate redemption value of holdings has increased owing to the accrual of interest, a process equivalent to the automatic investment of interest earned on outstanding bonds.

On certain occasions, however, net redemptions of savings bonds were of significant proportions, at least when compared with dissaving financed by consumer credit. During the transition year 1946 and during the nine-month period from July 1950 through March 1951, which encompassed the Korean War buying spree, redemptions exceeded sales of E bonds by \$0.9 billion and \$0.5 billion, respectively.⁷ In both periods, the attending circumstances strongly suggest that the net outflow was associated largely with increased consumer expenditures (Chapter 4).⁸ Net redemptions of E bonds were small relative to total consumer expenditures of \$147 billion in 1946 and \$154.0 billion during the Korean War period, but were more significant relative to net increases in total consumer credit of \$2.7 billion and \$1.7 billion, respectively.⁹ During both periods, consumer instalment credit was subject to controls designed to restrain consumer spending. Dissaving financed by net redemptions of E bonds, therefore, was in conflict with current objectives of monetary policy.

⁷ Data on E bonds are based on sales and redemptions in terms of sales price, excluding net accrued interest. If the net change in the outstanding amount of bonds, including net accrued interest, were used in these comparisons, the dissaving figures would be substantially smaller. Thus E bonds decreased by \$0.5 billion in 1946 and remained substantially unchanged during the Korean War period. Total net sales and net changes in holdings were considerably greater for savings bonds of all series combined than for E bonds in both periods, in part owing to sales of F and G bonds to institutional investors.

⁸ Net redemptions of savings bonds during 1957 and 1959 seem to reflect mainly shifts of funds to more attractive investment media rather than consumer dissaving.

⁹ Figures are based on Department of Commerce and Federal Reserve series. Consumer expenditures during the Korean War period are based on seasonally adjusted annual rates during the last two quarters of 1950 and first quarter of 1951 converted to a ninth-month total.

ROLE IN FEDERAL DEBT MANAGEMENT

From the Treasury's standpoint, the use of savings bonds has had both advantages and disadvantages. In analyzing the role of savings bonds in federal debt management, attention should be focused on the significance of their three major distinguishing characteristics—direct sales to individuals on a mass basis, nonmarketability, and the potential instability of outstanding amounts.

As indicated earlier, direct borrowing from individuals, particularly through the sale of E bonds to small investors, tends to divert to the Treasury funds that would otherwise flow to private financial intermediaries. The significance of direct borrowing lies partly in the possibility that by this means the Treasury is able, at any given level of interest rates, to tap a larger share of individuals' savings than it would if it permitted intermediaries to gather up the funds from individuals and borrowed solely at the institutional level. (In addition, direct borrowing may have some influence on total saving and there may be social advantages in widespread distribution of Treasury securities among individuals.) If this has been true during the postwar period, then direct borrowing through the savings bond program has succeeded in broadening the market for Treasury obligations. Alternatively, the Treasury may have been able to borrow outside the commercial banking system at a somewhat lower cost than if it restricted itself to borrowing from institutions.

These suggestions imply that the demand for Treasury securities has been more favorable from the Treasury's point of view at the individual level than at the institutional level. Unfortunately, it is difficult to appraise demand functions for Treasury obligations of individuals and institutional investors on the basis of the postwar record, especially since they have been offered essentially different types of securities. Nevertheless, it is significant that individuals' holdings of savings bonds have increased since the end of World War II. While the increase has been modest, it contrasts sharply with the marked postwar decline in Treasury security holdings of major types of institutional investors (see below).

The divergent behavior of individuals and institutional investors with respect to holdings of Treasury securities probably reflects basic

differences in investment preferences. Individuals may regard the absolute safety of principal inherent in U. S. government obligations with greater favor than institutions, which can more readily provide for protection against risk of default through diversification of their large portfolios, careful selection of individual issues, and investment in obligations which have government backing, such as federally underwritten mortgages.

In addition to possible differences in demand for Treasury securities, however, differences in the behavior of individuals and institutions also reflect Treasury policy objectives. During the early postwar period, the Treasury offered relatively generous yields on E bonds to individuals, partly because widespread distribution of these bonds was deemed to have important economic and social advantages and because of the basic objective of stimulating thrift. Yields on E bonds, which were sold solely to individuals during this period, were substantially higher than those available to institutional investors on marketable long-term Treasury bonds. Moreover, while the Treasury sought to increase the E bond debt, it apparently did not seek to maintain institutional holdings of Treasury securities at the extraordinary levels reached during World War II. Indeed, institutional holdings were reduced through debt retirement during the early postwar years.

Thus the willingness of individuals to maintain and increase their savings bond holdings during the postwar period, while major types of institutional investors were reducing their portfolios of Treasury securities, merely suggests but does not demonstrate that individuals represented a more receptive market for Treasury securities than institutional investors. Moreover, it should not be concluded that each dollar of funds flowing from individuals into the savings bond program represented a dollar of funds that would not have been available for investment in Treasury securities had it been channeled instead to private intermediaries. To some extent, funds diverted from intermediaries might have been invested by them partly in Treasury securities. Alternatively, if intermediaries had used the additional savings inflow to acquire obligations of private borrowers, yields on mortgages, corporate bonds, and other nonfederal investments might have declined relative to those on Treasury securities. As a result, other investors might have found Treasury securities more attractive relative to alternative investments.

Direct borrowing from individuals has required the adoption of securities and marketing methods tailored to the requirements of in-

dividuals. The choice of nonmarketable securities was basic to the policy of borrowing from individuals on an extensive basis. Since many individuals apparently prefer investments shielded from market risk, savings bonds have been a less expensive means than marketable securities of achieving the goal of widespread ownership of federal debt among individual investors.¹⁰ Furthermore, the fact that savings bonds (as is true of other nonmarketable securities and securities with restricted ownership provisions, such as bank restricted bonds) cannot be transferred by original purchasers to other investors has provided the Treasury with a means of segregating sectors of the market for its obligations and discriminating among different types of investors. Thus, in accordance with the basic objectives of the savings bond program, the Treasury, for a long period of time, offered preferential yields on E bonds solely to individuals. In general, through the use of nonmarketable securities, the Treasury has been able to segregate sectors of the market for its securities in order to minimize interest costs, reward particular types of investors, or foster the achievement of a particular pattern of ownership. Finally, since holders of nonmarketable securities have been deprived of the possibility of capital gains besides being protected against market losses, such securities have not been the object of speculative interest.

Today, savings bonds represent the principal departure (aside from special issues sold directly to United States government investment accounts) from the policy following during most the 1950's of placing primary reliance on marketable securities in the execution of debt management policy. During the early postwar years, the Treasury relied heavily on savings bonds and other nonmarketable securities to attract funds. In addition to savings bonds, \$1 billion of Investment Series A bonds were issued in autumn 1947, nearly \$13.6 billion of Investment Series B bonds in exchange for marketable bonds in April 1951, and an additional small amount of Investment Series B bonds in a combined cash and exchange offering in May 1952. From that time

¹⁰ The implications of nonmarketability for federal debt management have been discussed in numerous places. See, for example, Jacob Cohen, "A Theoretical Framework for Treasury Debt Management," *American Review*, June 1955, pp. 320-344; Robert V. Roosa, "Integrating Debt and Open Market Operations," *American Economic Review, Papers and Proceedings of the American Economic Association*, May 1952, pp. 214-235; Carl S. Shoup, "Les Restrictions à la Négociabilité de la dette fédérale aux Etats-Unis," *Revue de Science et de Legislation Financière*, July-September 1949, pp. 241-260; and *Monetary Policy and the Management of the Public Debt*, pp. 129-135.

through the end of the period covered by this paper, however, no new nonmarketable investment bonds were issued. Moreover, the sale of new short-term savings notes, large amounts of which had been issued during the early postwar years, was suspended in 1954. Finally, the sale of J and K bonds was terminated in 1957. Nonmarketable savings bonds probably will continue to play an important role in debt management as long as the Treasury seeks to attract savings directly from the mass of individuals and individuals' basic investment attitudes remain unchanged.

While savings bonds may be liquidated at prearranged prices with little or no notice, they have remained outstanding for fairly lengthy periods of time. Thus they have some of the characteristics of intermediate- or long-term debt. Nevertheless, owing in part to the redemption features of savings bonds, the current flow of funds into the program has varied considerably. Variations in net sales also stem from the practice of making savings bonds continuously available with yields that remain fixed for extended periods of time. In recent periods of tight money, when rates of return on alternative investments rose relative to the rigid yields of savings bonds, redemptions of outstanding bonds also rose and sales of new bonds declined. In order to discourage redemptions under such conditions, the Treasury was compelled, in 1959, to increase rates of return on outstanding savings bonds as well as on new issues. Moreover, when net redemptions became sufficiently large in 1957, the Treasury was forced to step up its offerings of marketable securities at an inopportune time, when it may have wished to refrain from making new offerings because of rising borrowing costs.

Conceivably, rising net redemptions of savings bonds during periods of capital market stringency could lead to increases in the velocity of monetary circulation. If funds derived from liquidation of savings bonds were used to finance expenditures or were channeled to private borrowers and used by them for this purpose, while new cash borrowing by the Treasury, undertaken to offset the cash drain, merely absorbed previously idle balances, the existing money supply would be mobilized for increased spending. The likelihood of this result would be increased should the Treasury offset the savings bond drain through increased short-term borrowing. These actions would be reflected in an increase in the velocity of turnover and could complicate the task of the monetary

authorities.¹¹ Alternatively, should the drain be offset by increased borrowing from the commercial banking system, and should cash reserves be made available to the banks, the money supply would increase.

While the dangers arising from net redemptions of savings bonds during periods of tight money require serious consideration, it should be borne in mind that the dollar amount of net redemptions in recent years was fairly modest. Only in the 1957 and 1959 periods of capital market stringency did net redemptions measured in terms of sales price reach significant proportions (see below). In 1959, moreover, the reduction in individuals' holdings of savings bonds was accompanied by sharp increase in their holdings of marketable Treasury securities, suggesting that individuals *in the aggregate* merely substituted one kind of Treasury security for another, and did not shift funds to private obligations.

Savings Bonds and Treasury Borrowing

During the early postwar years, the savings bond program continued to be an important source of funds, despite the fact that it attracted a much smaller volume of funds than during World War II. Indeed, the amount of savings bonds outstanding increased by about \$10 billion during 1946-50, while, by contrast, the total federal debt declined by \$22 billion. Savings bonds provided a larger volume of funds for the Treasury than any other type of security available to private investors, with the exception of marketable notes. The Treasury sold lesser amounts of Investment Series bonds, savings notes, and other nonmarketable securities, and reduced markedly the total outstanding amount of marketable bills, certificates, and bonds. In addition to notes, only special issues, which are sold exclusively to United States government investment accounts, surpassed savings bonds as a source of funds (Table 17).

Moreover, the savings bond program was the principal means used by the Treasury to sell its obligations to investors outside the commercial banking system (Table 18). Each of the first five postwar years witnessed an increase in the savings bond holdings of private non-

¹¹ See Warren L. Smith, "On the Effectiveness of Monetary Policy," *American Economic Review*, September 1956, p. 603. See Lawrence S. Ritter, "Income Velocity and Anti-Inflationary Monetary Policy," *American Economic Review*, March 1959, pp. 120-129, for an opposing view on the question whether increases in monetary velocity during periods of inflation and tight money are a hindrance to effective monetary policy.

TABLE 17

NET CHANGE IN TREASURY SECURITIES OUTSTANDING, BY TYPE
OF SECURITY, 1946-50 AND 1951-60
(billions of dollars)

Type of Security	1946-50	1951-60
Interest-bearing public issues	-35.1	21.9
Nonmarketable	11.2	-14.7
Savings bonds	9.8	-10.9
Other	1.4	-3.8
Marketable	-46.3	36.6
Bills	-3.4	25.8
Certificates	-32.8	13.1
Notes	16.3	12.0
Bonds	-26.4	-14.4
Special issues	13.7	10.6
Interest-bearing guaranteed securities	-0.5	0.1
Matured debt and noninterest-bearing debt	^a	1.0
Total	-22.0	33.6

SOURCE: Computed from data in *Treasury Bulletin*. Guaranteed securities exclude securities held by the Treasury. Data are in terms of par value except Series A-F and J savings bonds, which are included at current redemption value, including net accrued interest.

commercial bank investors, and three of the five years saw reductions on balance in their holdings of Treasury securities other than savings bonds.

A principal function of the savings bond program during this period was to provide funds for the retirement of marketable Treasury securities. The use of the proceeds of savings bond sales to retire marketable securities was essentially a funding operation. The marketable securities retired necessarily were short-dated, while a large proportion of the savings bonds sold during the period remained outstanding for several years. Of the total maturity value of savings bonds sold during 1946-49, which includes the period of debt retirement, about three-fourths were outstanding at mid-1950, and one-half was still outstanding at mid-1956.¹² As in other periods, savings bonds were sold almost entirely to investors other than commercial banks, while a large proportion of the marketable securities that were retired was held by the banking system.

¹² Computed from data in *Annual Report*, Treasury, 1958, p. 32, and sales figures for the 1946-49 period.

TABLE 18

NET CHANGES IN HOLDINGS OF SAVINGS BONDS AND OTHER U.S. GOVERNMENT
SECURITIES, BY SELECTED NONFEDERAL SECTOR, 1941-60
(billions of dollars)

	U.S. GOVERNMENT SECURITIES HELD BY								
	Total U.S. Government Securities	Savings Bonds		Nonfederal Investors		Nonfederal Noncommercial Bank Investors		Individuals	
				Other	Savings Bonds	Other	Savings Bonds	Other	Savings Bonds
1946	-19.2	1.6	-20.8	1.6	-23.7	1.6	-7.4	1.3	-1.1
1947	-2.5	2.3	-4.8	2.3	-7.6	2.3	-1.8	2.0	-0.7
1948	-4.1	3.0	-7.1	3.0	-10.7	2.7	-4.2	1.6	-1.8
1949	4.3	1.7	2.6	1.7	4.9	1.8	0.5	1.5	-0.6
1950	-0.5	1.3	-1.8	1.3	-3.5	1.1	1.7	0.3	-0.3
1951	2.8	-0.5	3.3	-0.5	-2.8	-0.5	-2.6	-0.5	-1.2
1952	7.9	0.3	7.6	0.3	3.1	0.3	1.3	^a	0.5
1953	7.8	-0.1	7.9	-0.1	4.3	-0.1	4.0	0.3	-0.6
1954	3.6	0.4	3.2	0.4	2.9	0.4	-2.6	0.5	-1.9
1955	2.0	0.2	1.8	0.2	-0.2	0.2	7.0	0.4	1.3
1956	-4.1	-1.5	-2.6	-1.5	-5.0	-1.2	-2.8	-0.2	0.8
1957	-1.7	-3.8	2.1	-3.8	1.6	-3.4	1.2	-1.9	-0.2
1958	8.0	-1.3	9.3	-1.3	8.0	-1.3	0	-0.5	-0.3
1959	7.9	-3.2	11.1	-3.2	11.5	-3.0	18.5	-1.8	7.5
1960	-0.5	-1.1	.6	-1.1	-1.6	-1.0	-3.5	-0.3	-1.4
1941-45	227.8	45.0	182.8	45.0	141.3	44.4	64.6	40.1	13.4
1946-50	-22.0	10.0	-32.0	10.0	-40.7	9.6	-11.3	6.7	-4.5
1951-60	33.7	-10.7	44.4	-10.7	21.9	-9.5	20.4	-4.0	4.5

SOURCE: Computed from data in *Treasury Bulletin*. Total includes securities issued or guaranteed by the U.S. government, except guaranteed securities held by the Treasury. Partnerships and personal trust funds are included with individuals. Figures on savings bonds acquired by nonfederal investors and nonfederal noncommercial bank investors in 1941-45 are based on the assumption that the federal government held no savings bonds at the end of 1940 and on estimated holdings of commercial banks on that date derived from *Annual Report, Treasury, 1940*, p. 62. See also note to Table 17. Nonfederal investors are investors other than Federal Reserve Banks and U.S. government investment accounts.

^a Less than \$500 million.

To be sure, the savings bond program provided only a fraction of the funds used by the Treasury to retire marketable issues. Its contri-

bution, however, was by no means insubstantial or economically insignificant. From the end of February 1946, when the federal debt was at an immediate postwar peak, to the end of the debt retirement period at mid-1949, the total amount of interest-bearing public marketable securities outstanding was reduced by \$44.7 billion, while savings bonds outstanding increased by \$7.6 billion. Measured in terms of the federal government's cash income and outgo, the largest source of funds for debt retirement was the \$22 billion reduction in the Treasury cash balances, mainly in War Loan accounts held in commercial banks. The reduction of these balances represented essentially the repayment of unneeded funds borrowed earlier, principally during the Victory Loan drive in late 1945, and, of course, did not reduce the amount of funds available for spending by the public during the debt retirement period. A smaller, but economically more significant, source of funds was the \$15.9 billion aggregate surplus of federal tax and other cash receipts over payments for the period as a whole. Net sales of savings bonds (excluding net accrued interest) contributed \$5.1 billion¹³ and, unlike the reduction in Treasury balances, may have had some effect on spending, to the extent that they reduced the supply of funds to private borrowers. These three sources yielded a combined total of \$42.5 billion for retirement of securities held by the public.

Of the total amount of marketable United States government securities redeemed with funds obtained from all sources, an estimated 39 per cent was held by commercial banks, 32 per cent by the Federal Reserve System, and 29 per cent by other investors.¹⁴ To the extent that proceeds of net sales of savings bonds contributed funds for the retirement of marketable securities held by the Federal Reserve System, the operations of the program tended to reduce member bank reserves and, hence, commercial bank lending power, in a period characterized for the most part by inflationary pressures. However, cash reserves drained off as a consequence of retirement of Federal Reserve-held securities, from the proceeds of net sales of savings bonds or by other means, were largely restored as a result of open-market purchases undertaken to support Treasury security prices. Although an estimated aggregate amount of \$14.3 billion of securities held by the Federal Reserve was retired between the end of February 1946 and mid-1949, the System portfolio declined by only \$3.6 billion, with most of the

¹³ Net accrued interest on savings bonds is excluded from data on cash transactions of the federal government, but is included in figures on total borrowings.

¹⁴ Lawrence S. Ritter, "A Note on the Retirement of Public Debt During Inflation," *Journal of Finance*, March 1951, p. 69.

decline occurring during the 1948-49 recession. Numerous other factors besides debt retirement operations and support-purchases by the Federal Reserve had powerful effects on the reserve positions and lending power of commercial banks during this period.

As indicated above, a major proportion of the securities retired was held by commercial banks. The use of funds channeled through the savings bond program to retire commercial bank holdings tended to reduce both the Treasury security holdings and deposits of the banks and to increase their excess reserves. The impact was similar, essentially, to the effect of sales of securities out of portfolios from commercial banks to nonbank purchasers, a process which, except when offset by restrictive monetary policy actions, enables the banks to expand their loans. However, the reduction in commercial bank holdings of Treasury securities was in accord with Treasury policy and tended to reduce the ability of the banks to shift funds from securities to loans in later periods of strong private credit demand. The role of the program during this period may be viewed in part as one phase of complex, large-scale financial operations that resulted in a sharp reduction in Treasury security holdings of commercial banks.

In 1950, despite net redemptions of E bonds after the outbreak of the Korean War, net sales of all series combined amounted to \$0.8 billion, largely as a result of a special offering of F and G bonds to institutional investors in the last quarter.

Redemptions exceeded sales in each year during the period 1951-60. The net outflow of funds remained fairly small until 1956-60. Net redemptions rose sharply in 1957, a period of capital market stringency, when market interest rates reached the highest postwar levels attained up to that time. The \$4.1 billion of net redemptions of savings bonds in 1957, together with attrition on marketable security exchange offerings amounting to \$8.3 billion,¹⁵ exerted a substantial drain on the cash position of the Treasury. This drain was only partially offset by \$1.2 billion surplus of cash income over outgo; and, as a result, sales of marketable securities for cash were stepped up substantially.

¹⁵ The figure on attrition represents the amount of matured public marketable securities other than regular weekly bills turned in for cash during exchange offerings. It includes the amount of tax anticipation bills and certificates redeemed for cash rather than taxes, but excludes two issues of Treasury bills rolled over into tax anticipation bills. If cash redemptions of tax anticipation issues were excluded, attrition would total \$3.2 billion.

The increased savings bond drain in 1957 thus came at a time when the Treasury's cash position was already under pressure and its borrowing costs were relatively high and rising. Except to the apparently limited extent that investors switched from savings bonds to marketable United States government securities (Chapter 4), the savings bond drain was among the factors that forced it to increase its market offerings at a relatively unfavorable time. To a large extent, the Treasury sought to meet its borrowing needs through the sale of short-term securities, with the result that the average maturity of the interest-bearing marketable debt declined from five years and four months at mid-1956 to four years and nine months at mid-1957, contrary to the Treasury's avowed objective of lengthening the debt. The actions of savings bond holders thus aggravated somewhat the already difficult problem of managing the federal debt in a period of tight money.

Net redemptions were also substantial in 1959, and amounted to \$3.4 billion. In this year, however, the effect on the Treasury's cash position of net redemptions of savings bonds was partly offset in the aggregate by sales of marketable securities to individuals. Allotments to individuals, partnerships, and personal trust accounts on subscriptions for public marketable securities other than regular weekly bills amounted to \$1.9 billion. Moreover, individuals' total holdings of marketable securities increased by \$7.5 billion, according to Treasury estimates, largely reflecting purchases of outstanding securities from other holders. These purchases presumably included some amount purchased from temporary holders of newly issued securities, and also reflect exchanges by individuals of about \$0.2 billion of F and G bonds issued in 1948 for higher-yield marketable notes. Thus in 1959, individuals in the aggregate exchanged part of their savings bond holdings for higher-yield marketable Treasury securities.

Savings Bonds in the Federal Debt Structure

Although annual net sales of savings bonds varied sharply during the postwar period and declined substantially since 1950, the outstanding amount of these bonds continued to be an important component of the federal debt. Reflecting the importance of savings bonds in World War II financing, their relative position had increased sharply during 1941-45, as Table 19 indicates. During the early postwar period, the share of savings bonds in the total federal debt increased further because of the continued growth of savings bond holdings and the retirement of marketable securities. The relative position of savings

TABLE 19

**SAVINGS BONDS AS PERCENTAGE OF TOTAL HOLDINGS OF U.S. GOVERNMENT
SECURITIES, BY SELECTED NONFEDERAL SECTOR, END OF YEAR,
1940, 1945, 1950, AND 1960
(dollars in billions)**

	SAVINGS BONDS AS PERCENTAGE OF				
	<i>U.S. Government Securities Held by</i>				
Savings Bonds Outstanding	Total U.S. Govt. Securities	Nonfederal Investors	Nonfederal Noncommercial- Bank Investors	Individuals	
1940	\$ 3.2	6	8	13	26
1945	48.2	17	21	35	67
1950	58.2	23	30	42	75
1960	47.5	16	23	33	68

SOURCE: See notes to Tables 17 and 18.

bonds declined during the 1950's, but remained about as high as at the end of World War II. At the end of 1960, savings banks represented 16 per cent of the total amount of United States government securities outstanding, 23 per cent of the amount held by all nonfederal investors, 33 per cent of the holdings of nonbank investors, and 68 per cent of the amount held by individuals. Throughout the postwar period, savings bonds accounted for three-fourths to over five-sixths of the total amount of nonmarketable securities held by the public.

The continued prominence of savings bonds in the postwar federal debt structure, notwithstanding sharp year-to-year variations in net sales, is indicated in another way in Table 20. This table is based on NBER estimates of U.S. government security holdings of various types of investors for the period 1946-58. Over the span of this thirteen-year period since the end of World War II, savings bond holdings of nonfarm households, who own the bulk of such bonds, have been one of the stable elements in the structure of the federal debt. Indeed, nonfarm households actually increased their holdings on balance. This increase, which largely reflected continued net cash purchases of and accrued

TABLE 20

U.S. GOVERNMENT SECURITIES, BY TYPE OF INVESTOR,
END OF YEAR, 1945, 1950, AND 1958
(billions of dollars)

Type of Investor	1945	1950	1958
Private investors	218.0	183.4	176.2
Commercial banks	90.6	62.0	66.2
Noncommercial-bank investors	127.4	121.4	110.0
Nonfarm households	51.3	55.2	51.9
Savings bonds	40.0	46.3	43.2
Other	11.3	8.9	8.7
Nonfarm noncorporate business	8.5	6.0	5.8
Agriculture	4.2	4.7	5.2
Nonfinancial corporations	20.7	19.4	17.0
Private financial institutions	42.7	36.2	30.1
Mutual savings banks	10.7	10.9	7.3
Savings and loan associations	2.4	1.5	3.8
Credit unions	0.2	0.1	0.1
Life insurance	20.6	13.5	7.2
Other private insurance	5.2	8.4	9.4
Investment companies	0.2	0.2	0.5
Other finance	3.4	1.6	1.8
Government	58.0	69.0	98.1
Federal	4.5	5.0	5.8
State and local	5.0	5.8	11.7
Government insurance and pension funds	24.2	37.3	54.2
Federal Reserve Banks and Treasury monetary funds	24.3	20.8	26.4
Rest of world	2.3	4.3	7.6
Total	277.9	256.2	282.7
Discrepancy	-0.5	-0.5	0.8

SOURCE: Data are based on "Studies in the National Balance Sheet" (M.S., NBER). Total outstanding and federal government holdings are at par. The holdings of other investors are at book value, except for Series A-F and J savings bonds, which are included at current redemption values, including net accrued interest. The discrepancy results from an adjustment for the difference between par and book values of holdings of commercial and savings banks. Personal trust accounts and nonprofit institutions are included with nonfarm households.

interest on E and H bonds, was in turn mainly responsible for the slight rise in their total portfolio of Treasury securities.

The demonstrated willingness of households to maintain their Treasury security holdings at levels close to and even above the World War II peak contrasted sharply with the protracted reduction in the portfolios of major types of institutional and corporate investors. Total United States government securities held in the aggregate by all private investors declined by \$41.8 billion during 1946-58. With the exception of nonfarm households, all types of private investors having at least \$10 billion of Treasury obligations (commercial banks, nonfinancial corporations, life insurance companies, and mutual savings banks) at the end of World War II, as well as nonfarm noncorporate business, credit unions, and "other finance," reduced their holdings during the period. In addition to the increase in holdings of individuals, Treasury securities were absorbed by the government and rest-of-world sectors and by a heterogeneous group of private investors, including savings and loan associations, nonlife insurance, agriculture, and investment companies.

The continued retention of Treasury securities by nonfarm households, while other types of investors reduced their portfolios markedly, is even more significant in view of the fact that they did not experience relatively rapid growth of total financial assets. If total financial assets of households had, in fact, increased more rapidly during the postwar period than those of other investors, it might be expected that their holdings of a major class of assets such as Treasury securities also would have increased more rapidly. Comparisons of NBER balance sheet data for nonfarm households and for classes of investors who reduced their Treasury security holdings revealed a 127 per cent rise in 1946-58 in nonfarm households' total financial assets (partly reflecting stock value appreciation). Although this rise was greater than that of nonfarm noncorporate business, commercial banks, and "other finance," it was roughly the same as that of mutual savings banks and life insurance companies, and it was lower than that of nonfinancial corporations and credit unions.¹⁶

¹⁶ On the basis of preliminary estimates for the period from the end of 1945 to the end of 1958, credit unions experienced an increase in total financial assets of about 886 per cent, nonfinancial corporations 147 per cent, life insurance companies 137 per cent, mutual savings banks 124 per cent, nonfarm households 127 per cent, "other finance" 68 per cent, commercial banks 49 per cent, and nonfarm noncorporate business 30 per cent. (Data are based on "Studies in the National Balance Sheet," MS., NBER.)

As indicated earlier, the contrasting behavior of individuals and major types of institutional investors appears to reflect differences in the basic investment preferences of the two groups of investors and Treasury policy with respect to yields on savings bonds and other securities.