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favored fixed-interest obligations during this period, partly for various reasons suggested above, the exceptionally wide spread between bond and stock yields appears less surprising than at first.

### V. FUTURE TRENDS IN PERSONAL INTEREST INCOME

A comprehensive analysis of probable future trends in personal interest income would involve detailed consideration of a large number of complex influences. In an immediate sense the amount of direct personal interest income will be determined, of course, by the volume of public and private debt held by individuals and the level and movement of interest rates. But a host of intricate and interacting causal forces will be operating behind these immediate determinants.

The amount of *public* debt available for private investment, for example, will be determined partly by unpredictable events, such as war and business depression, and partly by deliberate decisions, to be made from year to year, with respect to the level of federal, state, and local government expenditures, the extent to which the latter are to be financed by borrowing rather than current taxation, and the provision for retiring or otherwise removing debt from the investment markets—including such quasi retirements as the important amounts acquired each year by the social security and other governmental trust funds.

Changes in the volume of *private* debt will be influenced by all the varied forces that determine the amount of private new capital formation. These include the actual and expected state of business, the demands upon the physical capacity of public utility and other important capital-using industries, the degree to which important technological changes occur that create opportunities for profitable large-scale investment, the amount of residential construction made profitable by population growth, geographical shifts in population, obsolescence, and the terms of mortgage financing, etc.

But the extent to which private new capital formation will lead to growth in private debt will in turn depend upon still other factors. These include, among others, the volume of funds becoming available for investment to financial institutions through net receipts from individuals, the amounts becoming available to business corporations each year from retained earnings and depreciation charges, and the relative popularity of bonds and mortgages as against common and preferred stocks among investors.

Of the total amount of public and private debt made available for investment, the amounts to be held directly by individuals will be

affected by the competition of banks, insurance companies, pension funds and other institutional investors for debt obligations, and by the extent to which individuals are moved to use their savings to pay off home mortgages and to add to their life insurance policies and annuity and pension contracts, etc., instead of acquiring interest-yielding investments directly.

The level and movements of interest rates will be profoundly influenced, of course, by the policies of the Federal Reserve System, as well as by the myriad other factors operating upon the supply of and demand for loanable funds.

Without attempting a detailed quantitative analysis of the foregoing and other forces, it may nevertheless be useful to note broadly a few general tendencies.

1. *Long-term uptrend in total of public and private debt*

With only short-lived interruptions the total of net interest-bearing public and private debt in the United States has been increasing for many years (Table 6). It rose from $106 billion to $474 billion between 1918 and 1952, or by an average of $11 billion a year. The cumulative or compound rate of increase was about 4½ per cent a year. The only individual years in which the total did not rise were the depression years 1931–1933 and 1938, and the year 1946, when the Treasury retired $20 billion of debt with surplus funds part of which it had obtained through its Victory Loan only a few months previously.

The largest single source of increase in 1918–1952 was the expansion in the federal debt that accompanied World Wars I and II. Nevertheless the growth of private debt and that of state and local governments accounted for 45 per cent of the total debt expansion in this period. The aggregate amount of nonfederal debt outstanding declined in each of the depression years, 1931–1935 and 1938, as well as in the early war years of 1942–1943, but rose in all the other years of the period.

2. *Possible decline in net federal debt*

Barring a change in traditional federal budget practice, no large increase, if any, is to be expected, except during periods of war or business depression, in the net federal debt—the amount in other hands than federal trust funds and credit agencies. On the contrary, the steady absorption of the federal debt by federal trust funds and credit agencies, averaging $2.8 billion annually in 1944–1954, reduces by a like amount the volume of federal securities that would otherwise be

available to private investors. Hence, a balanced federal budget in the legislative and administrative sense, which includes provision for additions to the reserves or the trust funds, may mean in the future a reduction of perhaps $3 billion or more a year in the net interest-bearing federal debt outstanding in private hands. In this sense the operation of the social security and other government trust funds may be regarded as having the same effect as a sinking fund of like magnitude for reducing the amount of public debt in private hands. Some who fear that this rate of debt reduction would absorb too much of taxpayers' incomes in ordinary times have proposed that Congress seek to balance only the cash budget: that is, to raise only enough tax revenue each year to meet the year's actual cash expenditures, including outpayments by the social security and other trust funds, but not additions to their reserves. Others regard the public debt acquired by the social security and other trust funds as not extinguished, but alive, and as representing the funded portion of the government's growing obligations under these trust funds. By gradually transferring the privately held federal debt to the trust funds, the federal government lightens its interest obligations to private holders as its social security obligations increase.

3. *Special stimulants aided high rate of private debt expansion after World War II*

The net interest-bearing federal debt declined by $24 billion between the ends of 1945 and 1953, most of the decline being accounted for by the 1946 redemptions noted above. But other borrowers, most notably home buyers, business corporations, and state and local governments have been increasing their interest-bearing debts at a record rate since the end of World War II. Private and state and local government debt more than doubled in the eight years ended in 1953. The average annual increase in short- and long-term nonfederal interest-bearing debt in these eight years was $21 billion, and in long-term alone, $14 billion. The largest expansion in long-term obligations took place in the noncorporate mortgage debt, which rose in the eight years from $32 billion to $92 billion. Corporate long-term debt advanced from $38 billion to $79 billion; the nonmortgage debt of unincorporated business, farmers, and consumers, from $20 to $53 billion; state and local government debt, from $13 to $30 billion; and farm mortgages, included above in the noncorporate mortgage debt, from $5 to $8 billion.

Clearly if any such rate of growth were to continue, the total of personal interest income, direct and indirect, would tend to rise rapidly and substantially—barring a major decline in interest rates.

The great expansion of private and state and local government debt in 1946–1953 was a natural accompaniment of the enormous upsurge in investment that then occurred, for the greatest part of additions to interest-bearing debt is normally incurred to help finance new investment. Gross private domestic investment (as measured by the Department of Commerce), which was $16.2 billion in 1929, the previous peak year, averaged $42.6 billion annually in the eight years ending in 1953, and exceeded $50 billion in four of them.

The exceptional volume of new investment and debt in the years immediately following World War II doubtless owed much to special influences, some of which have lost their force. The period benefited from the pent-up capital needs accumulated during the depression and war for all manner of buildings and durable producers' and consumers' goods, and for the replenishment of inventories at all levels of production, distribution, and consumption.

Beginning about the middle of 1950, further stimulus to investment and to borrowing was provided by large-scale orders for military materials and equipment for the Korean War. A special incentive to a wide range of new investment was added by a law permitting business enterprises to write off in five years, for tax purposes, varying proportions of the cost of all projects for capital expenditures that were adjudged by the Office of Defense Mobilization to contribute to military defense.

The then-prevailing high rates of corporate income and excess profits taxes, coupled with the expectation that these rates would be reduced substantially in a few years, lent added attractiveness to projects eligible for rapid amortization. They also gave special encouragement to borrowing to finance much of the costs, for interest expense was deductible from taxable income. Thus, a corporation subject to a marginal rate of tax of 70 per cent on any additional income would find that its interest cost on money borrowed at 4 per cent was only 1.20 per cent, after allowance for taxes saved, whereas the dividends it would have to offer on additional preferred or common stock were not deductible from taxable income. Moreover, because a firm's borrowing increased its invested capital credit under the excess profits tax, the net effect of borrowing was sometimes to reduce its total tax liability by an amount greater than the gross interest cost of the borrowed funds.[29]

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[29] See Donald C. Miller, "Corporate Taxation and Methods of Corporate Financing," *American Economic Review*, 42 (December 1952), 839–854.

4. *Other forces including higher price level favor further debt expansion*

Since most of or all the shortages accumulated during the depression and World War II must now be presumed to have been made up, and since the bulk of the more urgent and more profitable investment projects stimulated by the Korean War and the emergency amortization certificates also must be presumed to have been completed, a slackening in the growth of nonfederal investment and debt, and even occasional temporary reversals in trend, such as have occurred before, would not be surprising.

Nevertheless, substantial average annual additions to the amount of nonfederal debt outstanding seem probable for some time to come. In the absence of other supporting evidence, or of evidence to the contrary, it would be reasonable to expect such additions because they would be consistent with a long-established trend. As previously noted, and as may be seen in detail in Table 6, total nonfederal interest-bearing debt rose in twenty-five of the thirty-five years 1918–1953, and nearly all the declines were concentrated in the Great Depression and World War II. This long-term trend may be interpreted as reflecting the strong tendency of our growing economy to make sizable net additions to its stocks of capital equipment and other goods in all tolerably prosperous years and, because of a variety of factors in its institutional organization, to finance a considerable fraction of the value of such additions by borrowing. Nothing in the recent behavior of the economy indicates any imminent weakening in these long-run tendencies. On the contrary, various specific considerations suggest continuing strength.

We have noted that noncorporate residential and commercial mortgage debt rose by $60 billion in 1945–1953 and constituted the most important component of long-term debt expansion in that period. The availability of FHA and VA mortgages, with their potent attractions of small down payments and long amortization periods for borrowers, and of mortgage insurance or guaranty for lenders, was of outstanding assistance in this expansion. These powerful aids to residential construction and to the growth of mortgage debt are scheduled to continue. In legislation enacted in 1954, the minimum down payment under FHA-insured mortgages was reduced to 5 per cent of the first $9,000 of purchase price for new houses and 10 per cent for old houses, plus 25 per cent of any excess for both new and old houses, subject to a ceiling for insured mortgages of $20,000 on one- and two-family homes, $27,500 for three-family homes, and $35,000 on four-family homes.

Other forces besides the ease of finance promise to sustain the de-

mand for new dwellings (and the creation of mortgages) at a relatively high level, though not necessarily or uninterruptedly at the record levels of recent years. These include the high rate of population growth, the continuing geographical shifts of our population to the Northwest and the South, and the country-wide shift of population from the interiors to the outskirts or suburbs of larger cities and towns.

The same population factors, accentuated by rising standards of consumption, are creating enlarged demands upon state and local governments for public works—schools, streets, highways, sewage and water systems, etc. A considerable part of such expenditures is commonly financed by borrowing. The growth and movement of population is similarly enlarging the requirements for new facilities of public utility enterprises, which characteristically finance a substantial proportion of additions to their invested capital by borrowing. Electric light and power, gas, telephone, and pipeline, and other public utility corporations accounted for nearly one-half, and, together with the railroads, for 77 per cent, of the entire $36 billion par value of corporation bonds outstanding in the United States at the beginning of 1951.[30] State and local government interest-bearing debt held outside of governmental trust and sinking funds amounted to $24 billion at that time and to $31 billion at the end of 1953.

For industrial corporations as well as public utility and railroad enterprises, the rate and character of technological change will also influence importantly the volume of new investment, and, therefore, of debt creation. Two sources of change that may conceivably require heavy investment in the relatively near future are the application of atomic energy to civilian uses and the broadening application of electronic machinery to industrial processes. Expressly intended to stimulate new investment and speedier replacement of old buildings and equipment were the optional provisions for the more rapid writing-off of new buildings and equipment enacted in the Revenue Code of 1954.

Consumer installment credit, stimulated by the increasing variety of popular durable consumer goods produced and by the still-growing market for consumer paper among banks and specialized consumer finance companies, which hold the bulk of it, promises to expand at least as rapidly as disposable personal income. The amount outstanding fell from $3.2 billion to $2.5 billion in 1942–1945, when the output of automobiles and other durable consumer goods was severely restricted by wartime controls, but it increased nearly ninefold in the next nine

[30] W. Braddock Hickman, *The Volume of Corporate Bond Financing since 1900* (National Bureau of Economic Research, 1953), Table A-1, pp. 250 ff.

years. The $22.2 billion outstanding at the end of 1953 equaled 8.9 per cent of total disposable personal income in that year as compared with 5.4 per cent in 1939.

Because of the rise in the price level since 1939—retail prices approximately doubled in 1939–1953—the dollar amounts of increases in the volume of outstanding debt will tend to be much greater than would otherwise have been the case. The upward revaluation of durable old assets, such as houses and other buildings, will tend to bring about an enlargement of the debts outstanding against them, particularly as they change hands; and the higher prices of new assets, assuming other things equal, including an unchanged proportion of borrowing against their costs, will lead to larger annual additions to the dollar volume of debt that in the past. Houses that were formerly built and sold for $6,000 and mortgaged for perhaps $4,500, now cost perhaps $12,000 to build and, with FHA assistance, command mortgages as large as $10,800 each. Thousands of old houses that still carry relatively modest mortgages issued during or shortly after the Great Depression will gradually pass into the hands of new owners at greatly increased valuations and probably will become subject to much larger mortgage debts.

As cities and states build additional schools and highways and make other extensions of their physical plants to meet the requirements of an expanding and shifting population and of higher standards for public services, the cost of the new facilities in dollars per physical unit will tend to be a good deal more than in the prewar period, perhaps two or more times as much (assuming no significant cost saving through technological advances); and, with an unchanged proportion of debt financing, the new facilities would entail a correspondingly greater amount of new debt. Maturing state and local government debt, incurred when prices were lower, will tend for this reason, other things being equal, to be less than the new debt.

In the same way, the transmission and distribution lines, telephone cables, pipelines, and buildings and machinery required by public utilities to meet growth and regional shifts in demand for their services will all tend to cost more than formerly per physical unit, and will therefore tend to cause greater additions to debt than the same rate of physical growth previously occasioned. In some instances it is likely that current depreciation charges based upon historical cost will be found inadequate, among industrial as well as public utility enterprises, to provide for the eventual replacement of various types of capital assets, with the result that greater resort will have to be had to retained earnings and new issues of securities, including debt issues.

At the same time the borrowing power of many enterprises will be enhanced because their old debts will constitute a reduced fraction of the present value of their assets, and their debt charges, a reduced fraction of their current earning power.

5. *Increasing demand for debt securities by financial institutions*

The growth of debt is promoted not only by the existence of attractive investment opportunities for borrowers but also by increases in the power and disposition of lenders to lend. Financial institutions make an important contribution in this respect by mobilizing the savings of thousands of individuals and assuming the responsibility and risks of investing them. Favorable to a continuing growth in debt, therefore, is the expanding volume of both voluntary and contractual or compulsory saving and investing by individuals through organizations whose investments characteristically consist mainly of fixed-interest obligations.

A major example is life insurance. As estimated by the Institute of Life Insurance, the total admitted assets of life insurance companies, largely bonds and mortgages, rose by approximately $40 billion, or more than 100 per cent, between 1943 and 1953, and have been growing in the last few years by more than $5 billion a year. Some, though not all, of this increase is doubtless to be ascribed to the rise in the general price level and in the level of wages and salaries, which encouraged individuals to take out larger insurance policies; but the dollar volume of premium receipts and of funds becoming available for investment is now geared to the higher price level.

The recent and continuing growth of private pension funds in business is another example. The following figures, taken from a study prepared for the Joint Congressional Committee on the Economic Report by the National Planning Association (*Pensions in the United States*, 1952), indicate the scale of the recent expansion in private pension plans:

ESTIMATED NUMBER OF PRIVATE PENSION PLANS AND NUMBER OF PERSONS COVERED

| Year | Number of plans | Number of persons covered (millions) |
|---|---|---|
| 1930 | 720 | 2.4 |
| 1935 | 1,090 | 2.6 |
| 1940 | 1,965 | 3.7 |
| 1945 | 7,425 | 5.6 |
| 1950 | 12,330 | 8.6 |
| 1951 | 14,000 | 9.6 |

In the same study it was estimated that employers and employees contributed over $2 billion in 1951 to private pension plans, from which perhaps $300 million was paid out; that contributions under government programs, other than the old-age and survivors insurance trust fund and other than under programs for the armed forces, amounted to $2.1 billion, with benefit payments approximating $1 billion; and that the net increase in the old-age and survivors insurance trust fund in 1952 approximated $2 billion. Ida C. Merriam, of the Social Security Administration, estimated that employer contributions to private pension plans in 1954 were at the rate of about $2.3 billion a year, employee contributions, $0.5 billion, current annual additions to private pension fund reserves, about $2.4 billion, and the accumulated reserves, about $17 billion.[31] Although sizable amounts of the private pension fund reserves may come to be invested in equity ownership of rental properties and in common and preferred stocks, it seems probable that a large part of these reserves, as well as all the reserves of public pension plans, will be invested in interest-bearing obligations. At the end of 1954, corporate and government bonds comprised 73 percent of the noncash assets of all uninsured pension funds of U. S. corporations other than banks, insurance companies, and railroads; common stocks, 19 percent; and preferred stocks and other assets, roughly 4 percent each (S.E.C. Release no. 1335, Oct. 12, 1955).

The widespread adoption of the practice of providing in mortgage contracts for monthly installment payments on the principal, relatively rare until the establishment of the FHA, is likewise producing a large amount of contractual saving by individuals, most of it adding to the inflow of funds to institutions and to the pressure upon them to seek replacement investments. Not all of these installment principal payments represent *net* saving in an economic sense, of course, because depreciation and obsolescence of the buildings must be allowed for. But the equal monthly amortization payments, after the first several years, are usually larger than the concurrent loss in the economic value of the property, even when the mortgage loans are for as long as thirty years. Moreover, the amount of funds flowing to lenders is determined by the gross, not the net, saving incorporated in installment payments of principal. Because these principal repayments reduce the volume of outstanding debt by the same amounts that they supply funds for new debt, they obviously do not contribute directly to an expansion of debt. On the contrary, by themselves, they constitute a major kind of debt reduction. But the daily receipt of huge amounts of such payments by

[31] In a paper entitled "Social Security Programs and Economic Stability," presented at the Universities-National Bureau of Economic Research Conference on policies to combat depressions, May 15, 1954.

## TABLE 26

## INVESTMENTS OF INDIVIDUALS IN SAVINGS ACCOUNTS, UNITED STATES SAVINGS BONDS, AND LIFE INSURANCE RESERVES, 1920–1953

(Millions of Dollars)

| Dec. 31 | Savings accounts | | | | Savings bonds U. S. government[e] | Reserves of life insurance companies[f] | Total | Net increase during year |
|---|---|---|---|---|---|---|---|---|
| | S&LA's[a] | Mutual savings banks[b] | Commercial banks[c] | Postal savings[d] | | | | |
| 1920 | 1,741 | 4,806 | 10,546 | 166 | 761 | 5,488 | 23,508 | — |
| 1921 | 1,965 | 5,541 | 11,079 | 148 | 652 | 5,893 | 25,278 | 1,770 |
| 1922 | 2,210 | 5,985 | 12,289 | 135 | 730 | 6,360 | 27,709 | 2,431 |
| 1923 | 2,626 | 6,484 | 13,656 | 135 | 373 | 6,981 | 30,255 | 2,546 |
| 1924 | 3,153 | 6,912 | 15,044 | 137 | 411 | 7,706 | 33,363 | 3,108 |
| 1925 | 3,811 | 7,349 | 16,314 | 138 | 376 | 8,592 | 36,580 | 3,217 |
| 1926 | 4,378 | 7,799 | 17,237 | 143 | 356 | 9,594 | 39,507 | 2,927 |
| 1927 | 5,027 | 8,352 | 18,674 | 153 | 245 | 10,648 | 43,099 | 3,592 |
| 1928 | 5,762 | 8,731 | 19,295 | 158 | 95 | 11,782 | 45,823 | 2,724 |
| 1929 | 6,237 | 8,797 | 19,165 | 169 | — | 12,801 | 47,169 | 1,346 |
| 1930 | 6,296 | 9,384 | 18,647 | 250 | — | 13,690 | 48,267 | 1,098 |
| 1931 | 5,916 | 9,939 | 15,955 | 613 | — | 14,293 | 46,716 | −1,551 |
| 1932 | 5,326 | 9,890 | 12,101 | 915 | — | 14,319 | 42,551 | −4,165 |
| 1933 | 4,750 | 9,506 | 10,979 | 1,229 | — | 14,613 | 41,077 | −1,474 |
| 1934 | 4,458 | 9,670 | 11,992 | 1,232 | — | 15,687 | 43,039 | 1,962 |
| 1935 | 4,254 | 9,829 | 12,899 | 1,229 | 153 | 17,203 | 45,567 | 2,528 |
| 1936 | 4,194 | 10,013 | 13,709 | 1,291 | 475 | 18,736 | 48,418 | 2,851 |
| 1937 | 4,080 | 10,126 | 14,410 | 1,303 | 964 | 20,181 | 51,064 | 2,646 |
| 1938 | 4,077 | 10,235 | 14,427 | 1,286 | 1,442 | 21,512 | 52,979 | 1,915 |
| 1939 | 4,118 | 10,481 | 14,865 | 1,315 | 1,900 | 23,024 | 55,703 | 2,724 |
| 1940 | 4,322 | 10,618 | 15,403 | 1,342 | 2,800 | 24,663 | 59,148 | 3,445 |
| 1941 | 4,682 | 10,490 | 15,523 | 1,392 | 5,400 | 26,592 | 64,079 | 4,931 |
| 1942 | 4,941 | 10,621 | 16,056 | 1,459 | 13,400 | 28,734 | 75,211 | 11,132 |
| 1943 | 5,494 | 11,707 | 19,001 | 1,837 | 24,700 | 31,365 | 94,104 | 18,893 |
| 1944 | 6,305 | 13,332 | 23,871 | 2,406 | 36,200 | 34,212 | 116,326 | 22,222 |
| 1945 | 7,365 | 15,332 | 29,929 | 3,013 | 42,900 | 37,509 | 136,048 | 19,722 |
| 1946 | 8,548 | 16,813 | 33,447 | 3,379 | 44,200 | 40,713 | 147,100 | 11,052 |
| 1947 | 9,753 | 17,744 | 34,694 | 3,523 | 46,200 | 43,820 | 155,734 | 8,634 |
| 1948 | 10,964 | 18,385 | 34,970 | 3,442 | 47,800 | 47,139 | 162,700 | 6,966 |
| 1949 | 12,471 | 19,269 | 35,145 | 3,302 | 49,300 | 50,231 | 169,718 | 7,018 |
| 1950 | 13,978 | 20,002 | 35,200 | 3,035 | 49,600 | 53,630 | 175,445 | 5,727 |
| 1951 | 16,073 | 20,880 | 36,592 | 2,808 | 49,100 | 57,140 | 182,593 | 7,148 |
| 1952 | 19,143 | 22,578 | 39,331 | 2,650 | 49,200 | 61,140 | 194,042 | 11,449 |
| 1953[g] | 22,823 | 24,345 | 42,001 | 2,466 | 49,300 | 65,500 | 206,435 | 12,393 |

[a] Investments in savings and loan associations including savings accounts, deposits and investment securities. *Does not* include shares pledged against mortgage loans or investments by United States government. Source: Home Loan Bank Board.

[b] Time deposits. Source: Comptroller of the Currency, 1920–1927; National Association of Mutual Savings Banks, 1928–1947; and Federal Deposit Insurance Corporation (time deposits of individuals, partnerships and corporations), 1948 to date.

[c] Time deposits of individuals, partnerships and corporations. Source: Comptroller of the Currency, 1920–1947; and Federal Deposit Insurance Corporation, 1948 to date.

institutional lenders exerts a potent, continuing pressure upon the latter to seek new loans. This pressure is favorable to freer lending and easier borrowing. And it is not unlikely that the widespread use of the monthly repayment house mortgage induces many of the home buyers to save more than they would save otherwise, for an expanding equity in a mortgaged house does not adequately serve all the purposes of individuals' saving—it is not a ready source of liquid funds, for example.

The increasing amount of saving and indirect individual investment that is compulsory under the social security system and most private pension plans and that is contractual under life insurance policies doubtless takes place to some extent at the expense of individuals' direct investments. But the restricted availability of pension rights as a source of liquid funds prior to an individual's retirement renders them an inadequate substitute for direct personal investments. Because of their special objectives, the same is generally true, though in smaller degree, of life insurance policies. It would not be surprising, therefore, if the effect of these institutional developments, as of the installment payment home mortgage, is to promote a net increase in personal saving and investment. To the extent that such increase takes the form of additional deposits in savings or checking accounts with banks and shares in building and loan associations, the volume of funds seeking fixed-interest investments through financial intermediaries would be increased further—barring a radical change in the predominant type of investment sought by financial institutions. Finally, unless material changes in law are made or large gold discoveries occur, increases in the country's supply of money to meet the needs of an expanding population and output will require substantially equal additions to the amount of debt securities purchased by the banking system.

It is striking to note that individuals raised their current additions to their holdings of savings accounts, United States saving bonds, and life insurance reserves from an average of $2.6 billion a year in the prosperous 1920's, and $0.9 billion in the depressed 1930's, to $11.4 billion a year in the 1940's, and $9.2 billion a year in the four years 1950–1953, inclusive (Table 26).

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[d] Due depositors: Outstanding principal and accrued interest on certificates of deposits, outstanding savings stamps and unclaimed deposits. Source: Post Office Department.

[e] Current redemption value of savings held by individuals at year-end: War Savings Securities, 1920–1928; and United States savings bonds, 1935 to date. Does not include holdings of corporations, unincorporated businesses, pension funds, etc. Source: Treasury Department.

[f] Accumulations in United States legal reserve life insurance companies include reserves plus dividends left to accumulate, minus premium notes and policy loans. Source: Institute of Life Insurance.

[g] Preliminary estimates.

Note: Does not include savings accounts in credit unions which amounted to approximately $1,500 million at the close of 1953.

Source: Operating Analysis Division, Home Loan Bank Board.

Not all the expanding resources of financial intermediaries will seek fixed-interest investments. A small proportion of the funds of life insurance companies, for example, is being invested in income-producing real estate and in common stocks. Private pension funds, because they are much less subject to statutory restrictions in this regard, may eventually devote a substantial fraction of their resources to equity investments. The number and resources of investment trusts designed primarily for investments in common stocks are increasing. But it appears safe to say that the greater part of the aggregate investment resources of financial intermediaries will continue to seek fixed-interest securities for many years to come.

6. *Debt creation and prosperity*

The considerations reviewed thus far do not prove that the volume of interest-bearing debt outstanding will necessarily rise, on the average, over the next ten or fifteen years, but they offer ground for believing such a rise to be likely. The rise will almost certainly take place if our economy avoids serious depression. This is true because a good level of business activity, by creating bright prospects, itself stimulates investment and aggregate borrowing. It is also true that a substantial increase in debt commonly functions as a major stimulus to prosperity. It contributes vitally to prosperity by financing important amounts of capital expenditures without which a high level of economic activity cannot readily be achieved. Prosperity usually requires a large volume of capital expenditures both because a sizable portion of our industrial plant and labor force is more or less specialized, in the short run, for producing buildings, machinery, and other capital goods (or the equivalent in military goods), and because our population desires not to spend all its income for perishable consumer goods but to use some of it for long-lasting capital and consumer goods and to acquire claims against the future—much of them in the legal form of debts. If the capital goods segment of our economy is not active, the consumption goods industries will also not be able to operate at full throttle, for they are geared to make and sell enough of their products for us all, including those in the capital goods industries, not only for their own employees and stockholders.

In spite of the well-founded traditional concern about the dangers of a large debt both to the debtors and to society at large,[32] an expanding volume of debt as our economy grows would seem to be necessary

[32] The dangers of debt obligations arise mainly from their inflexibility. The essential purpose of a debt contract from the creditor's standpoint is to provide a margin of protection for his claims to interest income and principal against the unavoidable risks and fluctuations of ownership of tangible property or of shares in business enterprises. For this protection he is willing to accept a limited and usually

for the full functioning of our economic institutions. By the purchase of various kinds of debt securities, both directly and through financial institutions, individuals are enabled to satisfy their desire to obtain definite and protected claims against the future in return for making available a portion of their current incomes to business corporations, governments, and others; and the latter, by productive use of the borrowed funds, help to maintain the nation's incomes and employment at a high level in the present, and place themselves in a position to meet the future obligations assumed as they mature. So long as the public continues to buy additions to its holdings of life insurance, pension and annuity contracts, and other fixed claims to money, there will be a demand by financial intermediaries for additional debt securities—barring a radical change in the predominant type of investment sought by financial institutions. Similarly, as previously noted, unless we have material changes in law or large gold discoveries, increases in the country's supply of money to meet the needs of a growing population and output will require substantially equal additions to the amount of debt securities held by the commercial banks.

Direct ownership of land, buildings, machinery, and other tangible assets, or of shares of common stock in business enterprises, also provides claims on the future. Because such claims are not in fixed dollar amounts nor fixed in time, but vary with the incomes, dividend declarations, and capital values actually realized, downward movements in their amounts from time to time are more or less expected and do not usually give rise to difficulties as serious as those resulting from defaults of fixed-debt contracts. For this reason, the financial organization of society may be said to be less vulnerable to adverse developments when claims on the future take the form of equity ownership predominantly and fixed debts are small.

As indicated above, however, the prevailing customs and practices of our population and our financial institutions with respect to saving and investment appear to favor the creation of a growing volume of debt. Well-informed lenders may be expected in self-protection to strive to limit the total amount and the maturities of each of their individual loans to sums judged to be well within the capacity of the

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lower rate of return. But the creditor's secured position is obtained by increasing the risks of the debtor. The latter's promises are usually unconditional as to timing, leaving him little or no room for adjusting to temporary adversity. Because of the large volume of short-term debt from some business enterprises to others, and from business enterprises as a whole to the commercial banks, and because of the general tendency of creditors to try to reduce credit in troubled times, defaults can easily become contagious. Severe and often fatal difficulties may then be created for many debtors (and their creditors) who would have surmounted their troubles if given more time. If the defaults are sufficiently large and widespread, they may do severe damage to financial confidence, and thereby impede for a more or less protracted period the ready flow of fresh money savings into new investment.

borrower, and to the extent that such lending policies are followed generally, the risks are lessened. But protection against the principal hazards of a large debt structure—panics and prolonged depressions that weaken even strong debtors—is more likely to be found in public policies designed to prevent or mitigate them, notably monetary policies.

### 7. *Interest Rates*

While the considerations reviewed thus far offer ground for believing that the volume of interest-bearing debt is likely to rise for some years to come, such a rise need not be accompanied by an increase in direct personal interest income. Whether the latter will also rise will depend partly on the movements in the level and structure of interest rates and partly on the extent to which individuals enlarge or reduce their direct holdings of government and corporate bonds, mortgages, and savings deposits. Without venturing a strong opinion on the probable direction of near- and intermediate-term changes in interest rates, we may note that the considerations cited below appear to indicate that a change in either direction is likely to be held to moderate proportions.

We have previously noted that interest rates on new issues of corporate and governmental debt securities and market yields on old issues fell almost continuously between 1932 and 1946 (Chart 3). Beginning in the first quarter of 1946, interest rates began an irregular two-year upward movement. A renewed decline in the three following years left long-term rates modestly above their 1946 lows. Then a sharp rise in 1951 and another in the first half of 1953 brought them to the highest levels in ten years. Between the beginning of 1946 and the middle of 1953 the average market yield of all marketable long-term Treasury bonds advanced from 2.21 to 3.09 per cent; that of Moody's Aaa corporate bonds rose from 2.54 to 3.40 per cent. The Treasury Department raised the interest rates offered on United States savings bonds sold after April 30, 1952, and, for succeeding periods, on the amounts of previous issues maturing after that date that are not tendered for early cash redemption.

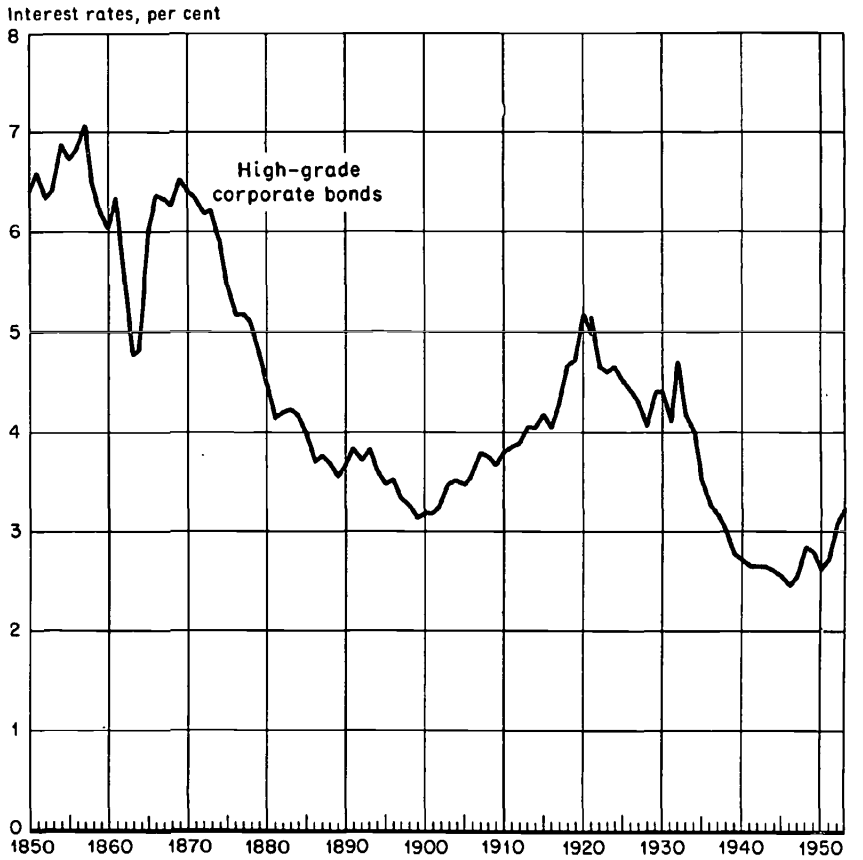
The hardening of interest rates was checked and reversed in the second half of 1953 as the combined result of a recession in business activity and of actions taken by the Federal Reserve authorities to increase the free reserves of commercial banks. In December 1954 the market yields of long-term federal and high-grade corporate bonds were roughly midway between their lows of the spring of 1946 and their highs of June 1953.

It is possible to conjecture that the net rise since 1946 may be only

the first leg of a long-term ascending movement. Chart 9, similar to one used by Raymond Goldsmith in connection with an unpublished address, depicts the course of yields on high-grade long-term corporate bonds for the last century. It will be noted that the twenty-five-year downward movement in interest rates that culminated in 1946 had been preceded by a twenty-two-year period of rising interest rates, 1899–1921, and that the latter rise, in turn, had been preceded by a thirty-year decline. Empirical parallelism suggests the possibility,

CHART 9

A CENTURY OF LONG-TERM INTEREST RATES, 1850–1953




Source: *1850–1956:* Leonard Ayres' average of high grade bond prices in *Business Activity and Four Price Series* (Cleveland Trust, 1932), adjusted to the level of the Macaulay series (see below) by the relation between them in 1856. *1857–1920:* F. R. Macaulay, *The Movements of Interest Rates, Bond Yields and Stock Prices in the United States since 1856* (National Bureau of Economic Research, 1938), Table 10, col. 5. *1921–1953:* David Durand, *Basic Yields of Corporate Bonds, 1900–1942* (NBER, Technical Paper 3, 1942) and David Durand and Willis J. Winn, *Basic Yields of Corporate Bonds, 1926–1947* (NBER, Technical Paper 6, 1947) extended to 1953 in the *Economic Almanac, 1953–54* (National Industrial Conference Board, 1953, p. 119) 40-year maturities.

though it obviously does not establish, that we began the ascending arc of long cycle of interest rate movements in 1946 and that the upward movement might continue for another decade or more.

But it would be dangerous to rely heavily upon historical parallelism in this connection. Notable changes have occurred in the central banking organization of the United States and other countries. These have diminished dependence upon gold as a source and regulator of the quantity of money and bank credit. The changes have correspondingly increased the power and disposition of the central banking authorities to deliberately influence interest rates by altering the amount and cost of the reserves they make available to commercial banks.

In the use of their discretionary powers, moreover, central banking authorities have been and are still subject to strong pressures of opinion in favor of low interest rates. During the Great Depression the deliberate promotion and maintenance of low interest rates became an avowed objective of many governments, first as an antidepression expedient, then as a long-run measure to combat secular unemployment. There was a striking shift of concern and emphasis on the part of many scholars and public officials from the problems of short-run cyclical instability in prices and business to the long-run difficulties of maintaining a high level of employment and output. Where depressions were once regarded as brief interludes in the steady march of economic progress, even to be welcomed in mild doses for their cathartic action upon the inefficiencies and wastes that developed during booms, they came to be regarded by many as an inveterate tendency of our economy, a ceaseless threat that needs to be combatted by all manner of direct and rearguard action. Frequent central banking adjustments in both directions had commended themselves highly when credit policy was viewed as the helmsman steering the economy through a very narrow channel between inflation and depression. But when fear of a secular tendency toward depression took hold, there was concern that the effects of restrictive short-run credit policies might long outlast the occasioning circumstances and reinforce this long-run tendency. A continuous promotive policy, with low interest rates a prominent feature, therefore came to be advocated by some.

In the changed economic climate of the years 1939–1953, this type of thought receded from prominence. The 95 per cent rise in the gross national product of the United States (in constant prices) between the first and last year of this period (accompanying an increase in the civilian labor force of 15 per cent) did much to erase the former fears of long-run tendencies toward depression. At the same time, the doubling of the price level—the consumer price index rose 92 per cent and the

wholesale price index, 120 per cent—again demonstrated the reality of the danger of inflation under favoring conditions. Faith in the usefulness of a restrictive monetary policy in appropriate circumstances was restored to many who had lost it.

Nevertheless the Great Depression left an abiding legacy of public concern about maintaining a high level of employment, and a readiness to use the powers of government to this end—as evidenced by the declaration of congressional policy in the Employment Act of 1946. Monetary policy in the form of actions designed to avoid or reverse undue credit stringency is looked to by many to provide the first and most desirable method of defense against incipient business depressions. It seems reasonable to believe, therefore, that although the Federal Reserve authorities will doubtless permit market forces to move interest rates upward when loan and investment demands are heavy, and will find it necessary to deliberately restrict credit and thereby raise interest rates from time to time in order to limit speculative excesses or inflationary developments, they will have powerful motives to moderate upward movements in interest rates.

Moreover, there is some evidence that the financial markets and business generally are highly sensitive to the degree of credit restraint required under present conditions to produce more than moderate absolute advances in interest rates. The greatly enlarged volume of marketable securities held by commercial banks and other institutions tends to exert an influence in this direction because even small increases in interest rates cause sizable reductions in the market value of their holdings of medium- and long-term bonds. And even moderate advances in long-term market yields tend to shrink the volume of funds available from private sources for government-sponsored lending programs, such as FHA and VA.

The degree of credit restraint needed to produce a sizable advance in interest rates must be sufficient to overcome the depressive influence upon market yields of the great and growing institutional demand for high-grade obligations previously discussed—a demand that is fed to an important degree by the contractual and noncontractual current liquid savings of individuals. Under these conditions, it may well be that a degree of deliberate credit restraint which causes relatively small absolute advances in interest rates may be adequate for policy purposes. It may be noted that the restrictive monetary policy pursued by the Federal Reserve authorities in the early months of 1953, in conjunction with the restrictive debt management policy of the Treasury (the offering of a long-term bond issue), had, in the words of the January 1954 *Economic Report of the President*, ". . . a more potent effect than

was generally expected." Yet the peak average monthly yield of Moody's Aaa corporate bonds (in June 1953) was only slightly more than 0.4 per cent higher than eighteen months before; and the 3.40 per cent average yield in that peak month was little more than one-half the peak levels of 1920 or 1921, and substantially below the *lowest* average annual yield of these bonds in any year between 1919 and 1935 (Table 6, Chart 3). The moderateness of the absolute rise in interest rates in 1951–1953 is the more impressive because the three-year period was one of new high records in the volume of private investment and borrowing.

Illustrating the sensitivity of long-term interest rates on the downside to a softening in the business situation and to credit-easing actions of the Federal Reserve authorities was the rapid retraction in the twelve months ended in June 1954 of about one-half of the previous seven-year net advance in long-term interest rates. The Reserve System was quick to purchase about $1 billion of Treasury bills in the open market in May and June 1953, and to announce, late in June, a reduction in the percentage reserve requirements of member banks. These two measures added somewhat more than $2 billion to the lendable reserves of the banks.

The improvement in the "quality" of large amounts of debt that results from better information about borrowers, greater mobility of investment funds, FHA insurance, and VA guarantees also operates to reduce effective interest rates. Aided by telephone and telegraph communication and a nationwide network of dealers and brokers in debt securities, and lending agents for insurance companies, the institutional demand makes funds available at competitive rates to areas and borrowers, physically remote from the central money markets, that formerly paid higher rates by reason of their distance. The effective rates of interest on obligations not widely known, but otherwise of good quality, though rising and falling with other interest rates, are now less likely than formerly to make exaggerated responses to tighter money markets. Mortgages insured under the FHA or guaranteed by the Veterans' Administration are not limited to a purely local market; and even uninsured mortgages, wherever issued, may tap through local lending agents the resources of insurance companies operating on a national scale. The effect of these developments is to promise a large and continuing demand for the obligations of lesser-known borrowers and to reduce that fraction of the so-called interest rate which actually represents compensation for risk, restricted marketability, and restricted access to lenders.

On the other hand, although downward movements of interest rates are likely during business recessions, both in response to reduced de-

mands by borrowers and to deliberate action of the Federal Reserve authorities, a decline to the very low levels of the middle 1940's appears unlikely. These levels were reached in unusual conditions. A combination of a depression of greater intensity and duration than had been previously experienced and huge additions to our banking reserves through imports of gold from Europe had driven interest rates down with little interruption from 1932 to 1940. Then, during most of the 1940's, direct government controls over steel, copper, and other vital materials restricted private demands for borrowed funds, while the needs of war finance encouraged an easy-money policy on the part of the Federal Reserve System and the Treasury. In the absence of a major war or a severe and prolonged depression, it appears unlikely either that Federal Reserve policy would seek a similar degree of monetary ease or that other forces would bring it about. Supporting the likelihood of firmer interest rates in the intermediate future than the levels that obtained during the middle 1940's, at least, is the greatly enlarged demand for capital funds by industry, state and local governments, the housing market, and foreign countries.

8. *Recent upturn in direct monetary interest income of individuals likely to continue, but to lag behind growth in total personal interest income, direct and indirect*

Even if greater changes in interest rates should occur than those here contemplated, they would affect the total of individuals' monetary interest income only gradually and far less than proportionally in the near- and intermediate-term future. One reason for this is that the average rate of interest received by individual investors on their total holdings naturally moves more slowly than the market rate because the new rates are obtained only on the new components of investors' total holdings. A second reason is that a considerable fraction of individuals' interest-yielding investments is in forms that are relatively slow to respond to changes in market rates of interest. At the end of 1953, $91.6 billion of individuals' interest-bearing investments consisted of savings accounts with commercial banks, mutual savings banks, savings and loan associations, and the postal savings system (Table 26). An additional $49.3 billion was in United States savings bonds. Mortgages accounted for about $23 billion.[33] If we assume that individuals at the end of 1953 owned approximately the same propor-

[33] *Federal Reserve Bulletin*, June 1954, p. 629. The estimate is a residual for individuals "and others" derived by subtracting from the estimated total mortgage debt outstanding the amounts held by commercial banks, trust companies, mutual savings banks, life insurance companies, building and loan associations, HOLC, FNMH, and VA. Some mortgages held by other federal agencies and by business corporations are included in the holdings ascribed to "individuals and others."

tions of outstanding marketable bonds of all kinds as in Goldsmith's estimates for 1949, such securities constituted 44 per cent of their total interest-bearing investments

With the prospect of a further expansion in interest-bearing debt, and of an average interest rate not more than moderately different from the prevailing one, personal monetary interest income is likely to increase in the near- and intermediate-term future. But the growth in individuals' direct monetary receipts of interest is likely to lag behind that in total personal interest income.

Between 1943 and 1953, the direct monetary interest income of individuals and nonprofit organizations rose each year (Table 11). The annual amount moved up from $3.4 to $7.5 billion during the decade. The increase in total personal interest income, monetary and imputed, as measured by the Department of Commerce, was considerably greater absolutely, and somewhat greater proportionally, the annual amount rising from $5.8 to $13.5 billion. The latter figures, as previously noted, include not only the direct monetary interest received by individuals and nonprofit organizations, but also the value of services performed for them by financial institutions, the value being measured by the amount of the latter's net property income expended to provide such services.

Individuals will doubtless acquire directly some portion of the continuing increases in the total of mortgage obligations, public utility and other corporate bonds, and state and local obligations, although financial institutions may be expected to be the principal purchasers. A further increase in individuals' interest receipts will tend to occur as portions of their existing holdings of bonds that were acquired when interest rates were lower mature and the proceeds are reinvested—unless interest rates should lose their net rise of the last several years. Individuals would also be likely to enlarge their holdings of United States government securities, possibly at the expense of equity investments or savings deposits, if the Treasury were to refund with long-term bonds any substantial amounts of the large short-term federal debt now held mainly by banks, other financial institutions, and business corporations.

But several influences will tend to moderate the growth of individuals' direct monetary interest receipts in the near- and intermediate-term future. One of these is the volume of home mortgage repayments. For millions of relatively recent home purchasers, earlier-than-scheduled repayments of installments on the principal of their mortgage loans will offer a more attractive rate of return (in the form of reduced interest

charges) than the alternative investments open to them, and will be preferred on other grounds as well. The increase in home-mortgage indebtedness outstanding in recent years has been accompanied by a substantial and rising volume of "apparent" retirements—"apparent" because the figures include old mortgages paid off with the proceeds of new mortgage loans as well as other full payments, partial prepayments, and regular amortization. The figures for recent years are as follows:[34]

MORTGAGE LENDING ON 1- TO 4-FAMILY NONFARM HOUSES
(In Billions of Dollars)

| Year | New loans made | Apparent retirements | Increase in outstandings | Outstanding at end of year |
|---|---|---|---|---|
| 1949 | 11.8 | 7.6 | 4.2 | 37.5 |
| 1950 | 16.2 | 8.6 | 7.6 | 45.1 |
| 1951 | 16.4 | 9.6 | 6.8 | 51.9 |
| 1952 | 18.0 | 11.2 | 6.8 | 58.7 |
| 1953 | 19.7 | 12.5 | 7.2 | 65.9 |

Although the available data do not permit ready separation of repayments through mortgage refinancing from repayment through other means, it is clear that the latter will shortly reach sizable amounts because most of the large volume of home mortgages made in recent years calls for complete extinction of the debt through monthly payments over a period of from fifteen to thirty years.

Related to the foregoing in some respects is the possibility of heavy cash redemptions of United States savings bonds issued in the last year of World War II and the several following years, now approaching maturity. Although the Treasury offered a ten-year extension of maturity at a slightly higher interest rate to all holders of the maturing E bonds, and automatically extended the maturity of E bonds not presented for cash redemption or exchange, a large proportion of the bonds

[34] Operating Analysis Division, Home Loan Bank Board, and *Federal Reserve Bulletin*.

The "New Loans Made" are actually recorded nonfarm mortgages of $20,000 or less. At present there is no reliable method of identifying the relatively small proportion of mortgages over $20,000, but these omissions appear to be approximately compensated by small nonresidential loans and junior mortgages of less than $20,000 on larger than 1- to 4-family nonfarm houses and nonresidential property. Although precise estimates on home mortgage lending are not available, the recording series provides a very good gauge of the amount of permanent financing activity for all 1- to 4-family nonfarm homes. Prior to 1951 when the Home Loan Bank Board prepared direct estimates of new loans on 1- to 4-family nonfarm houses, the differences in our data, for the years 1949 and 1950, exceeded the old series by 0.8 and 0.2 billion respectively, about 7 and 1 per cent for these two overlapping years.

maturing in 1952 and 1953 was presented for cash redemption. One use for the funds so obtained is reduction of a home-mortgage debt.

Complicating the effect of savings bond redemptions on individuals' cash interest income is the fact that many holders will realize interest from the bonds for the first time in a legal sense when they turn them in for redemption. In other words, because most holders chose not to report their accruing discount until redemption, the act of reducing their interest-yielding assets will temporarily increase their interest income.

Conceivably, by more generous terms or more aggressive promotional efforts, the Treasury could maintain or increase the importance of savings bonds as a source of personal interest receipts. It succeeded in maintaining the aggregate amount held by individuals at somewhat above $49 billion, measured by current redemption value, in 1950–1953, a period in which redemptions ran between $5 and $6 billion annually. In the same four years, it may be noted, individuals increased their savings accounts in banks, building and loan associations, and the postal savings system by $21.4 billion (Table 26).

Continuing to contest with savings bonds and other direct interest-yielding investments for the savings of individuals will be such investment intermediaries as life insurance companies and pension funds, most of whose interest earnings are not paid out as such. In the same four-year period, 1950–1953, in which individuals' holdings of savings bonds remained stationary, the reserves of life insurance companies rose by $15.3 billion, and those of private pension funds by perhaps one-half as much.

The amounts of interest income reported by individuals for income tax purposes may conceivably increase much more than their total interest receipts in the intermediate-term future. Because of the important degree of underreporting of interest on tax returns, stricter enforcement procedures may result in substantial additions to the amount of personal interest reported. As in Great Britain, such procedures might conceivably include provision for the deduction at the source and remittance to the Treasury by all important payers of interest of an amount equal to the first bracket tax rate on all interest payments. Even in the absence of such specific procedures, more thorough education of taxpayers and more comprehensive examination of tax returns may yield important results.