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reported on taxable returns, paid on the average 89 per cent of the annual amounts of income taxes attributable to interest. This extreme relationship was moderated after 1940, partly because of a change in the distribution of reported interest income in favor of the lower income groups and partly because of the relatively greater increases of effective tax rates on smaller than larger incomes. Between 1941 and 1949 inclusive, taxpayers with incomes of \$10,000 or more reported an annual average of 41 per cent of all the interest on taxable returns and paid an annual average of 71 per cent of the income taxes attributable to interest.

2. *Taxes on interest income declined radically as a share of total income taxes, but absorbed one-sixth or more of all interest reported on taxable returns in most years since 1942.*

As a proportion of total personal income tax liability, the amount contributed by interest income ranged during the twenties from 11.2 to 8.1 per cent (Table 20). The proportion rose to 15.8 per cent between 1929 and 1932, when other components of income shrank more drastically during the economic collapse of that period. Thereafter a sharp fall took place that continued with unimportant interruptions for the next twelve years. In 1950, income tax liability attributable to interest accounted for only 1.6 per cent of total personal income tax liability.

Income taxes absorbed a relatively small proportion of total interest income reported on taxable returns during the two decades 1921-1940, the proportion varying between 3.1 and 7.3 per cent (Table 21). It rose sharply in the years following 1940, climbing to 11.0 per cent in 1941, 17.2 in 1942, 21.2 in 1943, 22.9 in 1944, and 23.6 in 1945, after which it gradually declined to 15.9 per cent in 1949 and then rose to 17.8 per cent in 1950.

IV. INTEREST INCOME AND INTEREST RATES AFTER TAXES

For the upper income groups, of course, the proportion of interest income absorbed by income taxes rose to much higher levels during the 1940's, and the marginal rates rose higher still. The effective federal tax rates on the first dollar of additional interest or other ordinary income for a married man with two dependent children and the cited amounts of statutory net income from other sources for the years 1940-1954 are shown in Table 22. To these, in states imposing their own income taxes, should be added the marginal tax rates under the state laws.

TABLE 20
 TAX LIABILITY ATTRIBUTABLE TO INTEREST AS A PER-
 CENTAGE OF TOTAL TAX LIABILITY, BY
 INCOME GROUPS, 1918-1950
 (Percentages)

	Net income classes* (thousands of dollars)									
	Less than 2	2-3	3-5	5-10	10-25	25-50	50- 100	100- 500	500 and Over	Average
1918	6.4	6.4	6.8	10.0	12.3	13.3	13.8	14.7	17.3	13.1
1919	4.6	4.1	5.3	7.8	10.1	11.2	11.1	12.5	12.1	10.7
1920	3.8	4.4	5.4	7.9	9.9	10.8	11.2	11.5	11.4	9.7
1921	4.5	7.4	7.4	9.5	11.8	12.4	11.8	11.4	8.6	10.7
1922	4.4	7.5	7.1	10.1	12.7	13.1	12.6	11.4	9.5	11.2
1923	7.7	9.8	9.2	10.3	12.1	12.3	11.7	11.0	9.2	11.0
1924	7.6	9.9	9.8	9.0	12.0	12.0	11.3	10.2	8.7	10.6
1925	7.6	9.6	9.7	8.9	11.3	10.8	9.5	7.3	5.7	8.5
1926	7.4	9.9	10.4	9.7	12.7	12.1	10.7	8.2	5.6	9.3
1927	7.0	9.5	10.2	10.6	13.3	12.5	10.7	8.0	5.5	9.2
1928	8.8	11.4	10.7	10.1	12.6	11.7	9.8	7.0	5.4	8.1
1929	7.7	10.5	10.5	10.2	13.1	12.6	10.7	7.7	6.1	8.6
1930	8.0	12.5	11.1	12.3	18.1	17.3	15.0	11.3	7.5	12.9
1931	7.8	12.1	10.8	13.0	20.2	18.8	17.2	11.3	7.9	14.3
1932	8.0	10.8	8.8	13.5	20.3	26.3	20.8	12.8	6.6	15.8
1933	8.7	11.3	8.5	11.6	15.4	17.7	14.3	10.3	5.3	12.1
1934	6.1	9.2	6.7	10.2	13.0	12.3	9.9	6.8	4.3	9.2
1935	4.9	7.1	5.6	8.5	10.8	10.5	8.7	5.8	3.1	7.7
1936	5.6	7.1	5.2	5.2	6.2	6.3	5.9	4.8	4.1	5.4
1937	4.4	5.8	4.2	4.9	6.1	6.2	5.8	4.9	4.8	4.5
1938	6.2	6.8	4.9	5.7	7.2	7.2	6.1	5.4	4.9	6.1
1939	4.6	4.9	3.7	4.9	6.4	6.8	5.8	5.8	6.2	5.9
1940	3.0	2.6	3.0	4.2	5.4	5.6	4.9	4.6	5.2	4.8
1941	1.9	1.1	2.4	3.4	4.1	4.1	3.7	3.9	3.9	3.2
1942	1.3	0.7	1.3	2.7	3.5	3.6	3.1	3.1	2.7	2.2
1943	0.8	0.4	0.7	2.1	2.9	3.0	2.9	3.1	2.8	1.6
1944	0.6	0.4	0.5	1.7	2.7	3.0	3.2	3.5	5.4	1.5
1945	0.6	0.4	0.5	1.6	2.4	2.8	2.9	3.2	4.7	1.5
1946	0.7	0.4	0.5	1.5	2.3	2.7	3.0	3.6	4.3	1.6
1947	0.7	0.4	0.4	1.3	2.2	2.7	3.0	3.6	4.1	1.5
1948	0.6	0.4	0.4	0.9	2.0	2.6	2.7	3.1	3.5	1.4
1949	0.9	0.5	0.5	1.1	2.3	2.9	3.2	3.5	3.7	1.6
1950	0.8	0.5	0.4	0.9	2.3	2.8	2.9	2.9	3.0	1.6

* In 1944 changes to Adjusted Gross Income Classes.

TABLE 21

PROPORTION OF INTEREST INCOME ABSORBED BY
INCOME TAX, TAXABLE RETURNS, 1918-1950

Percentage of interest income absorbed by income tax		Percentage of interest income absorbed by income tax	
1918	11.3	1935	6.2
1919	9.7	1936	7.3
1920	7.0	1937	7.0
1921	6.1	1938	5.4
1922	6.7	1939	6.0
1923	3.9	1940	7.2
1924	3.7	1941	11.0
1925	3.8	1942	17.2
1926	3.9	1943	21.2
1927	4.2	1944	22.9
1928	4.6	1945	23.6
1929	4.3	1946	21.6
1930	3.6	1947	21.3
1931	3.1	1948	17.3
1932	5.1	1949	15.9
1933	5.3	1950	17.8
1934	5.8		

1. *Did low interest rates and high tax rates deter fixed-interest investment?*

The pronounced increase in personal income tax rates in the 1940's took place after interest rates had declined markedly for most of a decade and were still falling. In consequence the after-tax or "take-home" yields obtainable by individuals from fixed-interest investment suffered a sharp compound reduction. In 1929 a married man with two dependent children could obtain a marginal after-tax yield of 4.71 per cent from a moderate investment in the average of Moody's Aaa corporate bonds if his statutory net income from other sources was \$5,000, a "take-home" yield of 4.21 per cent, if \$25,000, and one of 3.93 per cent, if \$50,000. By 1950 these after-tax yields had shrunk to 2.16, 1.71, and 1.21, respectively. Similar radical reductions in after-tax

TABLE 22
 MARGINAL TAX RATES ON THE FIRST DOLLAR OF ADDITIONAL
 INTEREST OR OTHER ORDINARY INCOME, 1940-1954
 (Married, with Two Dependent Children)

	Statutory net income (thousands of dollars)					
	\$5	\$10	\$25	\$50	\$100	\$1,000
1940 ^a	4.4	11	34.1	48.4	66	78.4
1941	13	21	48	59	68	78
1942	22	34	58	69	83	88
1943 ^a	24.8	36.8	60.8	71.8	88	90 ^d
1944-1945	25	37	62	75	90	90 ^d
1946-1947	20.9	32.3	56.1	68.4	82.7	86.5
1948-1949 ^b	16.6	19.4	33.4	51.9	63.4	82.1
1950 ^b	17.4	20	34.6	53.7	65.5	84.4
1951 ^b	20.4	22.4	39	60	73	91
1952-1953 ^b	22.2	24.6	42	66	75	92
1954 ^b	20	22	38	59	72	91

^a Includes Defense Tax.

^b Rates are for joint return.

^c Includes Victory Tax.

^d Taking into account the statutory limitation of the maximum effective rate to 90 per cent.

For the years 1946-1954 varying maximum effective rates were imposed on the whole of net income that had the effect of reducing the marginal rates applicable to additional income in the uppermost income brackets. The levels of net income, for each year, at which the maximum effective rates became operative and the resulting effective rates were as follows:

Year	Income	Per cent
1946-1947	\$2,700,000	85.5
1948-1949	1,013,379	77.0
1950	1,196,702	80.0
1951	1,357,685	87.2
1952-1953	1,219,400	88.0
1954	1,261,400	87.0*

* Assuming no dividend income.

yields occurred in bonds of lower quality. The shrinkage was even greater at higher levels of income (Tables 23 and 24, Charts 6 and 7).

Nevertheless, individual investors as a whole added very much larger amounts to their holdings of fixed-interest securities during the 1940's than in any previous decade. They expanded their ownership of federal securities from \$10.1 billion at the end of 1939 to \$66.3 billion at the end of 1950.²² This increase was some \$14 billion greater than the entire net federal debt outstanding at the end of 1939, about \$12 billion greater than the entire amount of net long-term corporate debt outstanding on that date, and some \$3 billion greater than the

²² *Treasury Bulletin*, March 1955, p. 27.

TABLE 23
 MARGINAL AFTER-TAX YIELDS OF MOODY'S Aaa CORPORATE
 BONDS AT SELECTED NET INCOMES, 1919-1954
 (Married, with Two Dependent Children)

Year	Moody's Aaa*	Selected net incomes				
		\$5,000	\$10,000	\$25,000	\$50,000	\$100,000
1919	5.49	5.22	4.83	4.45	3.73	2.20
1920	6.12	5.81	5.39	4.96	4.16	2.45
1921	5.97	5.67	5.25	4.84	4.06	2.39
1922	5.10	4.90	4.59	4.18	3.52	2.24
1923	5.12	4.97	4.74	4.43	3.93	2.97
1924	5.00	4.90	4.75	4.35	3.80	2.85
1925	4.88	4.81	4.68	4.29	4.00	3.66
1926	4.73	4.66	4.54	4.16	3.88	3.55
1927	4.57	4.50	4.39	4.02	3.75	3.43
1928	4.55	4.48	4.37	4.00	3.73	3.41
1929	4.73	4.71	4.59	4.21	3.93	3.59
1930	4.55	4.48	4.37	4.00	3.73	3.41
1931	4.58	4.51	4.40	4.03	3.76	3.44
1932	5.01	4.81	4.51	4.11	3.46	2.20
1933	4.49	4.31	4.04	3.68	3.10	1.98
1934	4.00	3.84	3.64	3.24	2.76	1.84
1935	3.60	3.46	3.28	2.92	2.48	1.66
1936	3.24	3.11	2.95	2.62	2.24	1.33
1937	3.26	3.13	2.97	2.64	2.25	1.34
1938	3.19	3.06	2.90	2.58	2.20	1.31
1939	3.01	2.89	2.74	2.44	2.08	1.23
1940	2.84	2.72	2.53	1.87	1.47	0.97
1941	2.77	2.41	2.19	1.44	1.14	0.89
1942	2.83	2.21	1.87	1.19	0.88	0.48
1943	2.73	2.05	1.73	1.07	0.77	0.33
1944	2.72	2.04	1.71	1.03	0.68	0.27
1945	2.62	1.96	1.65	1.00	0.66	0.26
1946	2.53	2.00	1.71	1.11	0.80	0.44
1947	2.61	2.06	1.77	1.15	0.82	0.45
1948	2.82	2.35	2.27	1.88	1.36	1.03
1949	2.66	2.22	2.14	1.77	1.28	0.97
1950	2.62	2.16	2.10	1.71	1.21	0.90
1951	2.86	2.28	2.22	1.74	1.14	0.77
1952	2.96	2.30	2.23	1.72	1.01	0.74
1953	3.20	2.49	2.41	1.86	1.09	0.80
1954	2.90	2.32	2.26	1.80	1.19	0.81

* See Table 7.

TABLE 24

MARGINAL AFTER-TAX YIELDS OF MOODY'S Baa CORPORATE
BONDS, AT SELECTED NET INCOMES, 1919-1954
(Married, with Two Dependent Children)

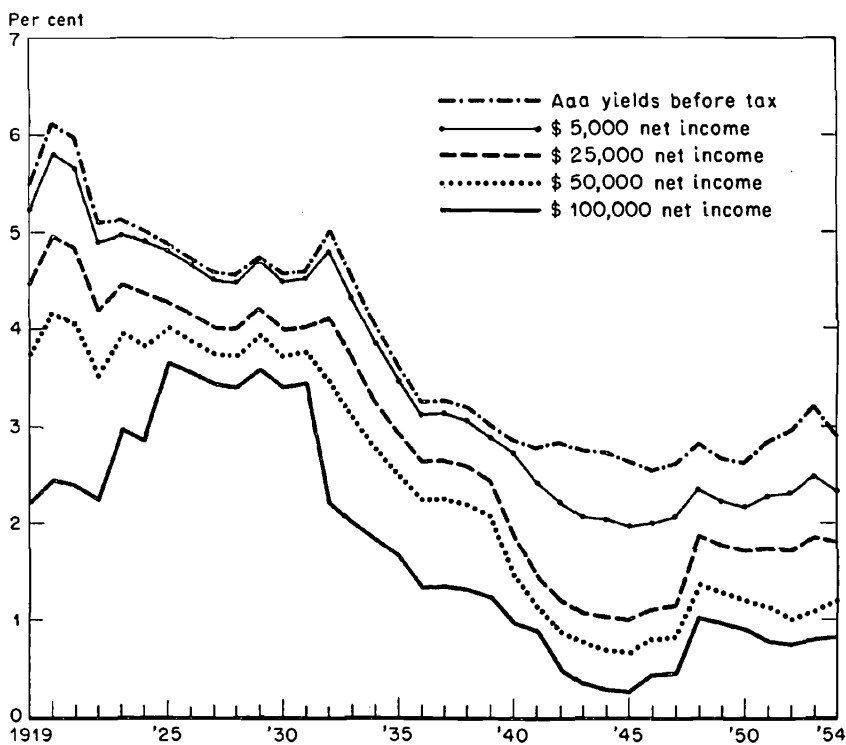
Year	Moody's Baa*	Selected net incomes				
		\$5,000	\$10,000	\$25,000	\$50,000	\$100,000
1919	7.25	6.89	6.38	5.87	4.93	2.90
1920	8.20	7.79	7.22	6.64	5.58	3.28
1921	8.35	7.93	7.35	6.76	5.68	3.34
1922	7.08	6.80	6.37	5.81	4.89	3.12
1923	7.24	7.02	6.70	6.26	5.55	4.20
1924	6.83	6.69	6.49	5.94	5.19	3.89
1925	6.27	6.18	6.02	5.52	5.14	4.70
1926	5.87	5.78	5.64	5.17	4.81	4.40
1927	5.48	5.40	5.26	4.82	4.49	4.11
1928	5.48	5.40	5.26	4.82	4.49	4.11
1929	5.90	5.87	5.72	5.25	4.90	4.48
1930	5.90	5.81	5.66	5.19	4.84	4.42
1931	7.62	7.51	7.32	6.71	6.25	5.72
1932	9.30	8.93	8.37	7.63	6.42	4.09
1933	7.76	7.45	6.98	6.36	5.35	3.41
1934	6.32	6.07	5.75	5.12	4.36	2.91
1935	5.75	5.52	5.23	4.66	3.97	2.64
1936	4.77	4.58	4.34	3.86	3.29	1.96
1937	5.03	4.83	4.58	4.07	3.47	2.06
1938	5.80	5.57	5.28	4.70	4.00	2.38
1939	4.96	4.76	4.51	4.02	3.42	2.03
1940	4.75	4.54	4.23	3.13	2.45	1.62
1941	4.33	3.77	3.42	2.25	1.78	1.39
1942	4.28	3.34	2.82	1.80	1.33	0.73
1943	3.91	2.94	2.47	1.53	1.10	0.47
1944	3.61	2.71	2.24	1.37	0.90	0.36
1945	3.29	2.47	2.07	1.25	0.82	0.33
1946	3.05	2.41	2.06	1.34	0.96	0.53
1947	3.24	2.56	2.19	1.42	1.06	0.56
1948	3.47	2.89	2.80	2.31	1.67	1.27
1949	3.42	2.85	2.76	2.28	1.65	1.25
1950	3.24	2.68	2.59	2.12	1.50	1.12
1951	3.41	2.71	2.65	2.08	1.36	0.92
1952	3.52	2.74	2.65	2.04	1.20	0.88
1953	3.73	2.90	2.81	2.16	1.27	0.93
1954	3.51	2.81	2.74	2.18	1.44	0.98

* See Table 7.

CHART 6

MARKET YIELDS OF MOODY'S Aaa CORPORATE BONDS
 COMPARED WITH THEIR MARGINAL AFTER-TAX YIELDS
 TO INDIVIDUALS WITH SELECTED NET INCOMES,
 1919-1954

(married, with two dependent children)



Source: Table 23

sum of all farm, residential, and commercial mortgage debt and state and local government securities then outstanding.²³ It would seem that, in the whole complex of forces operating upon the disposition of individuals to invest in fixed-interest securities in this period, the deterrent influence of sharply reduced take-home yields was less important than the sum of the other forces.

The "other" forces included the exceptional ones arising out of World War II. Between mid-1939 and mid-1946, the total amount of adjusted demand deposits and currency in circulation (outside of banks) more

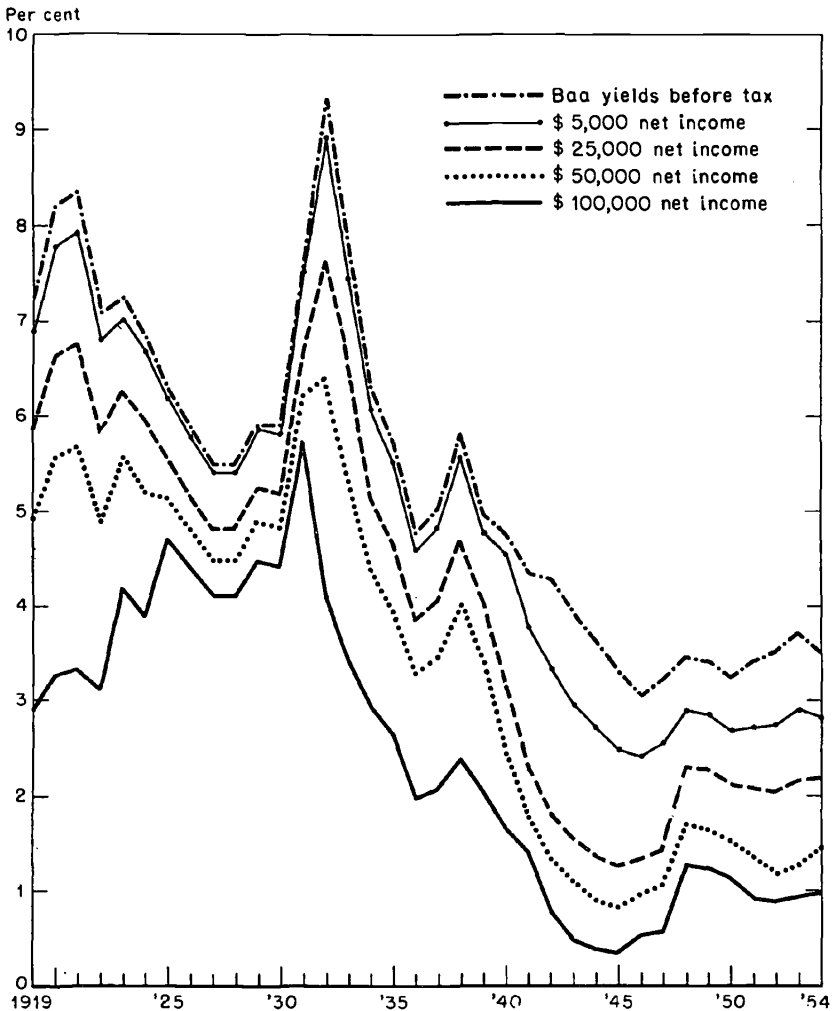
²³ *Survey of Current Business*, October 1950, pp. 10-15

CHART 7

MARKET YIELDS OF MOODY'S Baa CORPORATE BONDS
COMPARED WITH THEIR MARGINAL AFTER-TAX YIELDS
TO INDIVIDUALS WITH SELECTED NET INCOMES,

1919-1954

(married, with two dependent children)



than tripled.²⁴ Extensive government restrictions were imposed upon business and consumer spending and upon prices. The result was that investors not only had powerful patriotic motives and swollen financial resources to invest heavily in United States government securities during the war; they had only limited opportunities in the aggregate to spend or invest otherwise.

We may note that in the case of United States savings bonds, which accounted for the bulk of individuals' direct investments in fixed-interest securities, the deterrent influence of the combination of high income tax rates and relatively low interest rates was weakened by the option given holders to postpone tax liability for the accruing interest until redemption. Further, the seeming disposition and ability of some taxpayers to avoid reporting this and other kinds of interest receipts further tended to reduce the restrictive effect, however great or little it would otherwise have been, of the higher tax rates and lower interest rates upon fixed-interest investment.

In contrast, despite their close conceptual and competitive relationship to interest rates, the yields obtainable from common stocks behaved quite differently. Stock yields moved generally upward between 1936 and 1943, both before and after allowance for personal income taxes, though with occasional important reverses, while interest rates were falling almost uninterruptedly. The average yield of Moody's list of 125 representative industrial common stocks, which had been 4 per cent in 1929 and about 3.4 per cent in 1934-1936, rose to 6.4 per cent by 1942. After declining in the next four years to 3.8 per cent, it rose sharply again to reach 6.8 per cent in 1949, whence it declined to 6.5 and 6.3 in 1950 and 1951, 5.6 in 1952, 5.5 in 1953, and 4.7 in 1954. Except in 1942-1946, common stocks offered a generally widening differential in yield over high-grade bonds until after 1950 (Table 25, Chart 8). The dividend return from Moody's representative industrial common stock average had been somewhat *below* the yield of Moody's Aaa corporate bonds in 1934 and 1935 and only slightly above in 1936. By 1949 it was well over twice that offered by the bonds, and the absolute difference between the average market yields of the stocks and bonds had risen to more than four full percentage points.

Although the high level and steeply graduated scale of the personal income tax tended to narrow this difference after allowance for taxes, the spread before income tax became sufficiently wide to give common stocks a substantial advantage in current after-tax yield. A married man with two dependent children could have obtained a marginal

²⁴ *Federal Reserve Bulletin*, February 1948, p. 197.

TABLE 25

COMPARISON OF MOODY'S Aaa CORPORATE BOND YIELDS WITH
 DIVIDEND YIELDS OF MOODY'S 125 REPRESENTATIVE
 INDUSTRIAL COMMON STOCKS, 1929-1954

Year	Percentage yield on		Percentage excess of stock over bond yield
	Common	Aaa bonds	
1929	4.0 ^a	4.7	-0.7
1930	4.9	4.6	0.3
1931	6.4	4.6	1.8
1932	7.3	5.0	2.3
1933	3.7	4.5	-0.8
1934	3.4	4.0	-0.6
1935	3.5	3.6	-0.1
1936	3.4	3.2	0.2
1937	4.8	3.3	1.5
1938	3.9	3.2	0.7
1939	3.9	3.0	0.9
1940	5.3	2.8	2.5
1941	6.3	2.8	3.5
1942	6.4	2.8	3.6
1943	4.5	2.7	1.8
1944	4.6	2.7	1.9
1945	4.0	2.6	1.4
1946	3.8	2.5	1.3
1947	5.1	2.6	2.5
1948	5.9	2.8	3.1
1949	6.8	2.7	4.1
1950	6.5	2.6	3.9
1951	6.3	2.9	3.4
1952	5.6	3.0	2.6
1953	5.5	3.2	2.3
1954	4.7	2.9	1.8

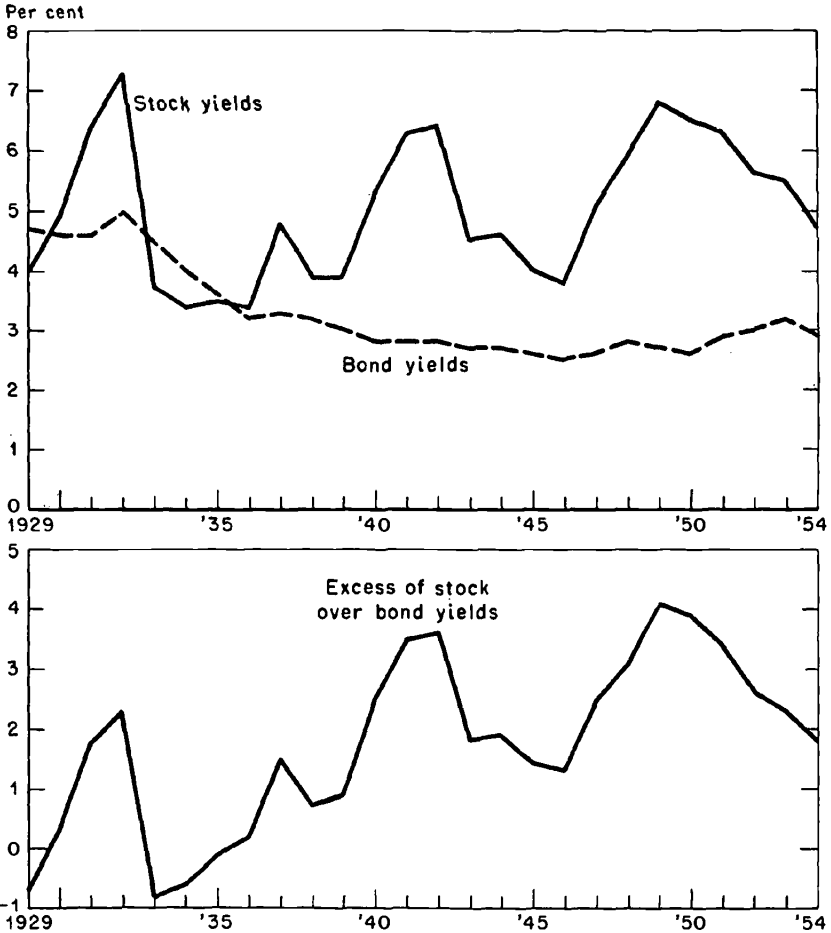
^a Seven-month average, June-December.

Source: Moody's Investor's Service as reprinted in *Survey of Current Business*.

after-tax yield of 5.38 per cent in 1950 from a moderate investment in Moody's list of representative industrial common stocks if his income from other sources was \$5,000; 4.13 per cent, if \$25,000; and 3.01 per cent, if \$50,000. For the same individuals Moody's Aaa corporate bonds offered after-tax yields of only 2.16, 1.71, and 1.21 per cent respectively.

Under these circumstances, taxable fixed-interest securities doubtless

CHART 8
 COMPARISON OF MOODY'S Aaa BOND YIELDS WITH
 DIVIDEND YIELDS OF MOODY'S 125 REPRESENTATIVE
 INDUSTRIAL COMMON STOCKS, 1929-1954



Source: Table 25.

became relatively less attractive to many individuals than competing kinds of investments, such as common stocks, rental real estate, owner-occupied houses, life insurance, tax-exempt securities, etc. For many persons who were heavily dependent upon investment income to meet their living expenses or who were for other reasons highly sensitive and responsive to the current rate of return on their investments, the

readiest of the alternatives to fixed-interest securities lay in common stocks. For some, rental real estate, such as commercial buildings and apartment houses, provided an attractive alternative because such properties—in compensation for their lesser marketability, greater risk, and greater need for personal supervision—commonly offer a higher direct return than marketable securities, as well as the important added attraction that a part of the current cash income from them is not taxable, being offset by an allowance for depreciation—an allowance which, it is usually hoped, will prove greater than the actual decline of the market value of the property. Still other persons, less concerned with current cash income or possessing special information or talent, were drawn to investments that promised rewards in forms enjoying lighter taxation, such as capital gains, oil royalties, life insurance, etc.

But the very persistence of generally high and rising stock yields in the face of much lower and declining bond yields would seem to be conclusive evidence that investors as a whole, institutional and individual, showed a strong preference for bonds as against stocks at any but substantial yield differentials. We lack reliable figures for individuals' additions to their holdings of corporate stocks during the 1940's, but the Securities and Exchange Commission has estimated that their holdings of corporate stocks, bonds, and other nongovernment securities as a whole rose by less than \$2 billion during the decade.²⁵

One factor that should logically have operated to discourage equity investment was the tendency of the increases in the level and steepness of graduation of tax rates to reduce the net yield advantage after taxes of higher-yielding risky investments over lower-yielding safer ones. When a taxpayer is subject to a 50 per cent rate on the next increment of his income (the 1950 bracket rate for a single taxpayer with net income a little over \$20,000 and for a married couple filing a joint return with twice as much), the difference in marginal tax yield between a speculative stock returning 7 per cent before income tax and a safe bond yielding 3 per cent is reduced from 4 to 2 percentage points.

In cutting the "take-home" yields to $3\frac{1}{2}$ and $1\frac{1}{2}$ per cent, respectively (assuming an addition to income no larger than the width of one tax bracket), the tax leaves their relative relationship unchanged, but it nevertheless bears more heavily upon the risky income. A portion of the latter may be properly regarded as a kind of insurance premium or reserve required by the investor to cover the losses of capital he is

²⁵ Liquid savings estimates of the Securities and Exchange Commission, in *National Income Supplement, 1954, Survey of Current Business, Table 6, p. 166.*

likely to experience in the long run in connection with such investments. Instead of obtaining a continuing 7 per cent yield before taxes, he may expect in the long run to average perhaps only 5 per cent. Particularly in view of the limited deduction allowed for capital losses, it is from the *absolute* excess of yield after taxes offered by the risky over the safe security (and from possible capital gains on other investments) that the investor can hope to obtain the funds to make good his capital losses, not from the *relative* yield advantage. By reducing this absolute margin, rising or high rates of income tax, particularly if accompanied by severe limitations on the allowance for capital losses, may logically be expected to influence investors to favor safer securities or, what amounts to the same thing, to insist upon compensatory increases in the before-tax yield differentials offered by risky over safe securities.

To take an extreme illustration, consider an investor subject to a tax of 90 per cent on his next increment of income. If he chooses a risky investment with a market yield of 7 per cent over a safe one yielding 3 per cent, his after-tax yield will continue to be $2\frac{1}{3}$ times as large on the former as on the latter, but the absolute difference in after-tax yields will be only 0.4 per cent—a margin that could hardly provide significant reserves against capital losses.

Another portion of the market yield differential offered by risky over safe investments may be viewed as the compensation of the venturesome investor for the service of assuming unpopular risks and uncertainties. Although the supply of this service may also be responsive to the *relationship* of the yields of risky and safe investments, apart from their absolute levels, it seems unreasonable to suppose it is not significantly responsive to the *absolute* rate of "take-home" compensation offered for it. To use our previous hypothetical example, a gross advantage in after-tax yield of *less* than 0.4 per cent (to allow something for reserves against possible capital losses) could not reasonably be expected to attract as much venturesome investment as a bigger absolute differential in yield.

Finally, there is the difficulty of recouping capital losses from ordinary income when the latter is taxed at high rates and when only severely limited offsets are allowed against it for capital losses. If the risk of loss that presumably inheres in a stock yielding 7 per cent at a time when good bonds are yielding 3 per cent should materialize, and the investor sold some or all of his shares for less than he paid for them, he would need to earn and save considerably more ordinary income than the amount of his loss to replace the latter, unless he should be fortunate enough to obtain offsetting capital gains. For

example, if a married couple filing joint returns in 1950 sustained a long-term capital loss of \$28,000, and this sum was equal to their average annual income, they would need to increase their incomes by a minimum of nearly \$40,000 in the aggregate during the next ten years and to save the whole increase after income taxes on it to recoup their capital loss out of ordinary income without reducing their consumption standards (assuming 1950 tax law, including a capital loss allowance against ordinary income of \$1,000 each year for six years). If their average annual income approximated \$50,000, and this was also the amount of their capital loss, they would require additional ordinary income aggregating about \$100,000 in the next ten years to recoup their capital loss in similar fashion. Unless an investor believes he has good possibilities of offsetting possible capital losses by future capital gains, the effect of the foregoing kind of calculation is to accentuate in his mind the importance of safety of principal as against yield.

The fact that relatively high and generally rising stock yields persisted in the face of falling interest rates on high-grade obligations during the fifteen years ended in 1950 is doubtless attributable in varying degree to other influences as well as to tax considerations. Nevertheless, it seems reasonable to infer from the prevailing yields that investors made substantial allowance for the heavy personal income taxes on dividends and the limited allowance for capital losses in their appraisal of common stocks and were content during this period to accept a greatly reduced after-tax rate of return, relative to both previous levels and to current yields on equity investments, for the safety of high-grade fixed-interest securities.

The foregoing considerations apply most directly to investments that promise their rewards mainly in the form of more or less regular incomes. But a considerable proportion of risky investments are expected to produce much of or all their yield in the form of capital gains, which may be loosely defined as the profits obtained by selling stocks, bonds, land, or other property not a part of the seller's stock in trade for more than they cost him. Such gains are taxed at very much lower rates than ordinary income in the United States (one-half or less, provided the property is held more than six months) and most other countries, and are completely exempted from income tax in some of them.²⁶ In consequence, risky investments promising much of their return in this form offer investors the possibility of "take-home" yields that are

²⁶ See Lawrence H. Seltzer, with the assistance of Selma F. Goldsmith and M. Slade Kendrick, *The Nature and Tax Treatment of Capital Gains and Losses* (National Bureau of Economic Research, 1951), Chaps. 1 and 10.

substantially larger than those obtainable in the form of current income from either safe or risky investments. The combination of high tax rates on ordinary income and low ones on capital gains therefore tends to discourage some forms of risky investment and to encourage others.²⁷

A study by Butters, Thompson, and Bollinger, based upon interviews with several hundred active investors representing various levels of income and wealth, presents evidence that although the investment decisions of a majority of the investors interviewed were not significantly influenced by taxes, the tax structure decreased the willingness of the interviewed investors in the aggregate to make equity-type investments; that of the investors who were influenced, a greater number were moved by tax considerations to more conservative than to more venturesome investments; that a significant proportion of the investors in the highest income groups were moved to shift to more venturesome investments in an effort to obtain the preferential tax treatment afforded capital gains; and that the ability and disposition of the uppermost income groups to supply equity capital remained strong in the face of high taxes.²⁸

When yields on common stocks fail to move in the same direction as yields on high-grade bonds, a part of the explanation is doubtless to be sought in the changing prospects for capital gains. When these prospects include severe uncertainties or a deteriorating business outlook, high or rising stock yields may persist in the face of low or declining interest rates, as in most of the period between 1929 and 1949. The opposite movements may occur when these prospects are regarded more favorably by investors, as was presumably the case during the rise in stock prices and decline in stock yields in the face of firming interest rates in 1949-1954.

Among the nontax influences (or those indirectly connected with taxation) that may well have contributed to the exceptionally wide and generally increasing spread between stock and bond yields after 1936 were the continuing strong growth in the resources of banks and other institutional investors and the concentration of their investment demand upon fixed-interest obligations. The investments of commercial banks, savings banks, life insurance companies, and other financial institutions are largely restricted by law, tradition, and prudential considerations to high-grade bonds and mortgages. Net additions to the

²⁷ *Ibid.*, Chaps. 6 and 7; and J. Keith Butters, Laurence E. Thompson, and Lynn N. Bollinger, *Effects of Taxation: Investments by Individuals* (Graduate School of Business Administration, Harvard University, 1953).

²⁸ Butters, Thompson, and Bollinger, *op. cit.*

supply of these, except for government obligations, were small or negative during the 1930's and the first half of the 1940's. On the other hand, the funds available for investment by financial institutions increased enormously.

Commercial banks became insistent and large-scale bidders for government and other high-grade securities. Their reserves were swelled through huge gold imports in the 1930's and through large purchases of government securities by the Federal Reserve Banks during the 1940's. Yet the total loans of all commercial banks in the United States amounted to less at the end of 1945 than at the end of 1929 or even 1924. At the end of 1929 their loans had amounted to about three times their holdings of all kinds of securities; at the end of 1945 their total loans amounted to only about one-fourth of their holdings of securities. With the loan demand restricted and new issues of high-grade corporate and state and municipal bonds small, the banks had no major alternative outlet for their greatly enlarged funds other than federal government securities during the 1930's and early 1940's. Their holdings of these rose from \$5 billion in 1929 to \$91 billion in 1945, when they accounted for about three-fourths of the total earning assets of commercial banks. During the several years following 1945, when the demand for business and mortgage loans rose greatly, the banks were enabled to obtain additional reserves to meet this demand by selling federal securities at more or less pegged prices to the Federal Reserve System.

Similarly, the life insurance companies and other institutional investors were insistent bidders for government and other high-grade obligations during the later 1930's and most of the 1940's because of their rapidly growing resources and the small volume of alternative investment opportunities. The 49 life insurance companies reporting to the Life Insurance Association of America increased their total admitted assets from \$21.4 to \$43.3 billion between 1935 and 1946. Of the \$21.9 billion increase, added holdings of United States government securities accounted for \$17.2 billion and public utility bonds for \$3.2 billion.

For banks, insurance companies, and other financial intermediaries, the bulk of the funds that poured in each business day had to be invested fairly promptly in high-grade fixed-interest obligations at whatever yields were obtainable, with little regard to the higher yields offered by common stocks and other equity investments. The downward pressure upon the yields of high-grade fixed-interest securities therefore became especially severe. Since individuals apparently also

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