

Research Study Five

THE CORPORATION INCOME TAX
AND CORPORATE FINANCIAL POLICIES

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I. INTRODUCTION

It has long been argued that the corporation income tax discriminates in favor of debt as against equity capital; that corporations have increasingly responded to this tax pressure toward debt as tax rates have risen; and that given the likely continuance of high corporate tax rates, this tax subsidy for debt is likely to add significantly to the difficulty of achieving and maintaining stable economic growth in the future.

*The author wishes to acknowledge his considerable debt in matters both of substance and detail to his friend and former colleague Professor Franco Modigliani, now of Northwestern University. Although this paper is to a considerable extent an attempt to apply to a somewhat different problem the theoretical framework we developed in "The Cost of Capital, Corporation Finance and the Theory of Investment," American Economic Review (June 1958), the author assumes sole responsibility for any errors or flaws in the reasoning presented here. Thanks are also due to my colleagues Gert Von Der Linde and Dewitt Dearborn who read and commented on an earlier draft; and to my research assistant Robert Sharp who prepared the charts and tables.

A. The Tax Savings from Debt Financing

As the argument is usually presented the discrimination in favor of debt financing is seen as arising primarily from the fact that interest payments on indebtedness are recognized as deductible expenses in computing taxable corporate profits, whereas dividends on common or preferred stock are not.¹ Hence, if the tax rate is, say, 50 percent and the yields of bonds and common or preferred stock are each say, 5 percent, the corporation must earn \$10 before taxes to pay a \$5 dividend, but only \$5 to service the interest on an equivalent amount of debt capital. Or, alternatively, one can say that the net cost of the bond to the firm after taxes is only \$2.50 or half the net cost of equity. Other things equal, of course, the higher the tax rate the more pronounced the apparent discrimination. At a tax rate of 25 percent, equity would, by this reckoning, be only a third more expensive than debt; at a rate of 75 percent it would be four times as costly.

Although the deductibility of interest has received most of the attention, it does not quite tell all the story. In the case at least of small, closely-held corporations, where the division of the owners' investment between debt and equity has little financial significance anyway, there are other substantial advantages in getting the debt ratio as high as the Commissioner of Internal Revenue will allow. Valuations of property are more likely to be accepted by the Commissioner and the Courts if the transfer to the corporation was in exchange for debt rather than equity securities; if the corporation is unsuccessful the debts can be written off as ordinary losses under the personal income tax rather than as capital losses; the corporation's payments in retirement of the debt are a use of retained earnings not likely to run afoul of the penalty surtax on unreasonable accumulation of surplus; and these retirements will be treated as tax-free return of capital under the personal income tax and not as dividends or even liquidating dividends.² For many small corporations these advantages of a "thin" equity structure may, in the aggregate far outweigh the deductibility of interest.

¹There was, however, a brief interval, 1936-37, in which most (but not all) of the corporate tax was converted to an undistributed profits tax from which dividends, as well as interest were deductible. In addition, since 1942 public utilities have been allowed (Section 247, Internal Revenue Code), to deduct the equivalent of a little over 30 percent of the dividends on cumulative preferreds issued prior to 1942 or on any new cumulative preferreds issued since then to refund a bond or preferred stock outstanding at that time.

²See Bardes, Mahon *et al.* [2, pp. 4-26, and p. 27]. (Numbers in brackets refer to listing in the bibliography appearing at the end of this study.)

The tax advantage of debt financing are also greatly increased for all corporations, public as well as closely held, whenever there is an excess profits tax of the kind levied during World War II and again during the Korean War. Under both taxes, some part of debt capital was allowed to enter the computation of the excess profits tax credit thereby considerably reducing the liability to that tax. In fact, it was actually possible under both previous excess-profits taxes for a corporation to reduce its combined income and excess-profits tax liability by more than the interest expense on new borrowed funds.³

For the sake of completeness it may be well to take note of certain additional biases in the tax system insofar as corporate financial strategy is concerned. It is widely believed, for example, that the deductibility of rental payments is similar to that of interest payments in that it gives corporations an incentive to lease real property used in the business rather than to maintain an equity interest in such property. In the other direction, it has been argued that the very favorable treatment of capital gains under the personal income tax gives corporations a powerful incentive to rely on retained earnings in preference to external funds even where the cost of such funds is deductible. These and related matters will be touched upon in due course, though the primary focus of the paper will be on the deductibility of interest and the presumed bias in favor of debt.

B. The Economic Consequences of Excessive Corporate Debt

There is substantial agreement that it would be unfortunate indeed for the health of the economy if corporations had in fact been induced by the prospects of tax savings to make very heavy use of debt financing. In the first place high debt ratios increase the danger that an otherwise mild downturn will become a major depression. As the economy slacks off firms with large interest and sinking fund requirements may be led to take drastic actions to generate sufficient cash resources to protect their solvency. Regardless of the probable adverse effects on long-run profits they may have no choice in the short run but to cancel construction, to cut back capital spending, to slash payrolls or to dump inventory at distress prices. Even if these desperate measures do succeed in saving some of the firms from bankruptcy, they only serve to transmit the distress further down the line to the firms' workers, suppliers (and competitors), where the process repeats itself.

Not only may excessive debt accelerate and magnify the downturn, but it can act as a brake on the subsequent recovery. After the

³See e.g., Miller [16] and Keith [12].

contraction has run its course and the economy has been stable for some time at a low level, new investment opportunities begin to appear and projects deferred during the recession come up for re-examination. But cash balances have been depleted by the drains for debt service; current operations are not yet generating sufficient cash throw-off to finance the investments from internal funds; and the stock market, with the recent wave of bankruptcies still vivid in the minds of the survivors, is still too depressed to make new issues attractive as a source of funds. The high-grade bond market, however, is buoyant and now should be the ideal time for firms to draw temporarily upon their reserves of borrowing power. But too many firms may have frittered away these reserves during the previous boom in their attempts to reduce their short-run tax burdens. And others, who will have had their recently excessive debt ratios reduced the hard way, by bankruptcy, are not likely, for a while, to want or to be able to tempt fate again in the same way. Even those firms that had been conservatively financed throughout may be unwilling to abandon their conservatism, surrounded as they are with so many object lessons on the dangers of borrowing. Thus the investment opportunities may remain unexploited; and the forces making for revival may be stifled by the pressure of debts, past and present.

Arguments of this kind were particularly common at the close of World War II and in the immediate postwar years when the events of the 30's were still a dominating concern in economics.⁴ In recent years, however, we have been hearing another line of argument growing out of the concern during much of the postwar period with the problem of controlling inflation. This is the claim that the deductibility of interest weakens monetary policy as an instrument for restraining inflationary pressures. A restrictionist monetary policy supposedly works, in part at least by raising the cost of credit, thereby discouraging borrowing and investment. But how strong a deterrent to borrowing can such a policy hope to provide when fully 52 percent of the cost of borrowing can be written off by a corporation against its income tax?⁵

⁴Many examples can be cited, the most influential being probably Henry Simons [23] and Homer Jones [11].

⁵See e.g., A. F. Burns [5] and also the statements by Jacoby and Wallich in [1] and by Gass in [26]. A similar recent shift in the emphasis of the argument can also be noted in the matter of retained earnings. In the 1930's and 1940's the major criticisms of the bias in favor of retained earnings ran in terms of the possible long-run misallocation of resources stemming from the fact that investments financed via retained earnings did not have to "pass the test of the market." In recent years, however, an at least equally (continued on next page)

C. Plan of the Paper

Such then is the conventional indictment of our tax system for its supposed bias in favor of debt financing. The purpose of this paper is to see whether these charges are well founded and, to the extent that they are, to suggest appropriate remedies. We shall begin in Section II by looking at the readily available data to see whether there have, in fact, been any major changes, tax-induced or otherwise, in corporate financing policies in recent years.⁶ We shall build on these findings in Section III to evaluate both the conventional indictment of the tax system and a number of frequently made policy proposals stemming from that indictment.

II. HAVE THERE BEEN SIGNIFICANT CHANGES IN THE PATTERN OF CORPORATE FINANCING?

A. The Evidence in the Data on Flotation of Bonds and Stocks

Those who believe that the tax system has been responsible for major changes in the pattern of corporate financing usually point first to the evidence provided by new flotations of stocks and bonds.¹ The data in question, showing total gross proceeds by type of se-

(Footnote 5, continued from previous page)

frequently heard complaint has been that the bias weakens monetary policy because neither the cost nor the availability of internally generated funds can be directly influenced by the monetary authorities.

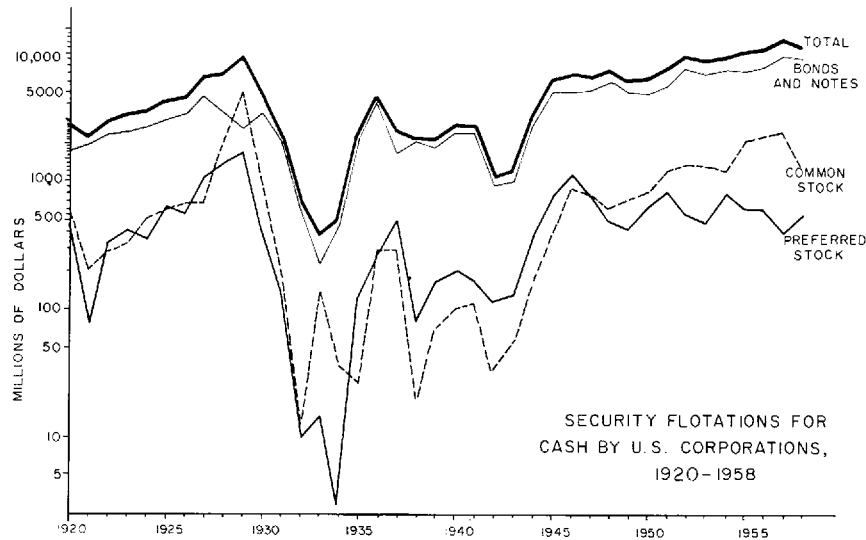
One other new line of argument which might be mentioned for the sake of completeness though it will little concern us here, is the claim that deductibility of interest hurts Treasury financing operations. The Treasury must compete for the limited supply of debt money with corporations able to tap the equity market, but led to the debt market by the tax subsidy.

⁶Attention throughout will be restricted exclusively to long-term financing. No one has ever seriously suggested that corporate short-term financing policies are significantly effected by deductibility and many types of short-term liabilities (such as trade credit and accruals) carry no explicit interest charge. Furthermore, for short-term loans, the repayment of principal looms much larger than the interest and of course, retirements of loans are not deductible.

¹See e.g., the testimony of the then Secretary of the Treasury George Humphrey before the Senate Committee on Banking [25].

curity floated annually from 1920 to the 1st half of 1959 are presented in the Appendix in Table V-A1 and are plotted in Chart V-1.²

CHART V-1



A number of important facts about the behavior of external, long-term financing stand out clearly in Chart V-1 which has been plotted on a semi-log scale to facilitate comparison of percentage changes. Notice first of all the great instability in the volume of flotations which mirrors in exaggerated form all the major and minor cyclical variations of the economy. Not only does the total fluctuate widely, but the relative importance of stocks and bonds within the total also varies considerably, primarily because of the

²From 1920 to 1939 the data represent compilations by the Commercial and Financial Chronicle as reported in Banking and Monetary Statistics [3]. From 1940 to date the data are tabulations by the Securities and Exchange Commission. There are a number of differences in coverage between the two series, but the differences do not seem to have any important bearing on the matters under discussion here. [Author's note: Although some additional data have become available since the submission of this report to the Commission in February 1960, it does not appear, at least on the basis of a cursory examination, that updating the various charts and tables here presented would necessitate any important qualification of the analysis or conclusions.]

particularly violent swings in the volume of common stock financing. So sensitive in fact is stock financing to the stage of the cycle that it dwindled to virtually complete insignificance during the severe depression of the 1930's. Hence, to attempt to discern in the data any possible tax-induced changes in the pattern of external financing, attention must largely be focussed on the generally prosperous but high-tax postwar years 1947-58 in comparison with the equally prosperous but on the whole low-tax 1920's.

A comparison of the average volume of flotations of stocks and of bonds in the two periods is presented in Table V-1. As can be seen, gross proceeds from equity issues (defined as preferred plus common stocks) have averaged about \$2.0 billion per year during the 10 postwar years 1947-58, or only slightly above the annual average of \$1.8 billion during the low-tax 10 years 1920-29. Considering the enormous growth of the economy since the 1920's, and the fact that average total flotations have nearly doubled in the interval (from \$4.6 billion annually in 1920-29 to \$8.9 billion in 1947-58), the data on security flotations, certainly seem to suggest at least at first glance some considerable lag in equity financing in recent years.

A more direct way of coming at the presumed change in the pattern of financing is in terms of the changes in the relative proportions of debt and equity. The year by year percentage distribution of total gross proceeds between debt and equity is presented in Appendix Table V-A2 and Chart V-2 with the period averages summarized in Tables V-2 and V-3. Notice that during the 20's the annual proportions (Table V-2) average out to 67.6 percent debt and 32.3 percent equity; whereas, during the late 1940's and 1950's the average proportion of debt in total issues rose to 78.2 percent and that of equity fell to 22.0 percent. The apparent shift to debt is even more striking if the comparison is made in terms of the ratios of the average amounts of debt and equity floated in the two periods rather than by averaging the annual proportions.³ Using the ratios

³To avoid having to wrestle with the conundrum of which method of calculation gives the "truer" picture we shall, throughout this section, present all comparisons both ways. Even this may not be satisfactory, however, since it is entirely possible that both methods are misleading. The trouble arises from the fact previously noted that both the absolute volume of flotations and the relative composition fluctuate considerably from year to year with a systematic tendency for years of low total volume to be also years with low equity ratios. Hence, within any 10- or 12-year period, averaging the ratios will tend to yield a lower ratio for equity than taking the ratio of the averages; and between any two periods the ratios under either method will tend to be sensitive to the relative number of good and bad years in each period.

TABLE V-1

Average Annual Gross Proceeds from New Issues of
Securities for Cash by U.S. Corporations, 1920's and Postwar

(In millions of dollars)

Period	Bonds and Notes	Equity Issues			Total Bonds and Notes plus Equity
		Preferred Stock	Common Stock	Total Equity	
1920 - 1929	2,832	697	1,102	1,799	4,630
1920 - 1928	2,855	586	662	1,247	4,103
1920 - 1927	2,782	485	483	968	3,750
1947 - 1956	6,410	629	1,255	1,883	8,293
1947 - 1958	6,979	604	1,365	1,969	8,947

Source: See Appendix Table V-A1.

TABLE V-2

Average Annual Percentage of Proceeds from Debt and Equity in New Issues of Securities for Cash
by U.S. Corporations, 1920's and Postwar

Average Annual Percentage of Total Gross Proceeds from All Issues Represented by

Period	Bonds and Notes	Equity Issues		Total Equity
		Preferred Stock	Common Stock	
1920 - 1929	67.6	13.5	18.8	32.3
1920 - 1928	72.0	13.0	14.9	27.9
1920 - 1927	74.8	12.1	13.0	25.1
1947 - 1956	77.7	7.9	14.6	22.5
1947 - 1958	78.2	7.3	14.8	22.0

Source: See Appendix Tables V-A1 and V-A2.

TABLE V-3

Percentage of Proceeds from Debt and Equity in Average Annual New Issues of Securities
for Cash by U.S. Corporations, 1920's and Postwar

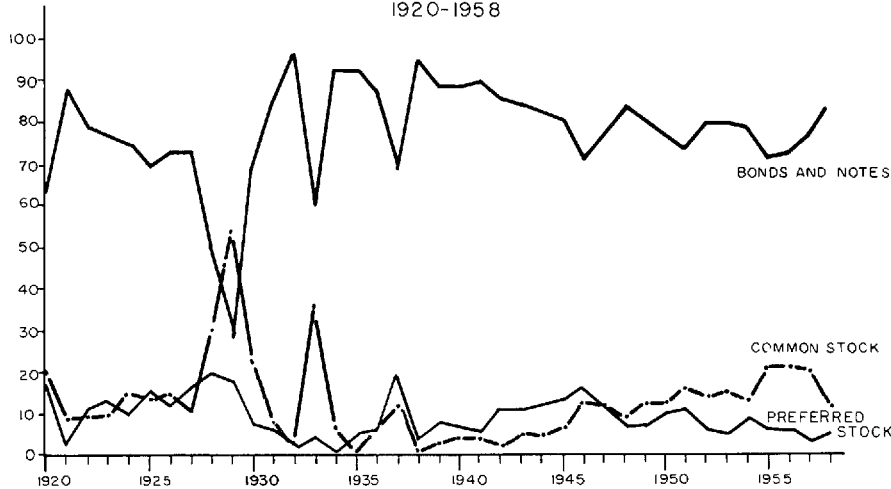
Percent of Average Annual Gross Proceeds from All Issues Represented by

Period	Bonds and Notes	Equity Issues		
		Preferred Stock	Common Stock	Total Equity Issues
1920 - 1929	61.2	15.1	23.8	38.9
1920 - 1928	69.6	14.3	16.1	30.4
1920 - 1927	74.2	12.9	12.9	25.8
1947 - 1956	77.3	7.6	15.1	22.7
1947 - 1958	78.0	6.8	15.2	22.0

Source: See Appendix Table V-A1.

CHART V-2

PERCENTAGE COMPOSITION OF SECURITY
 FLOTATIONS FOR CASH
 BY U.S. CORPORATIONS
 1920-1958



of the average amounts floated (Table V-3) means a change in the debt share from 61.2 percent of the total in the 20's to 78.0 percent in the recent period, a rise of nearly a third.

Although the data on security flotations thus seem to indicate a shift towards debt financing in the recent high-tax years there are a number of qualifications and possible sources of bias to be considered.

1. The Distorting Effects of 1929. For one thing, the results for the 1920's are heavily dominated by the years 1928 and 1929, especially 1929. If we leave out just that one exceptional year of frenetic stock-market speculation the picture changes drastically. As can be seen from Table V-1, the average annual volume of equity issues becomes \$1.2 billion in the nine years 1920-28 as compared with the \$2.0 of recent years; the average mix becomes 72.0 percent debt and 27.9 percent equity as compared with the 78.2 percent and 22.0 percent of the postwar years; and the ratios of the averages become 69.6 percent and 30.4 percent for the 9 years of the 1920's as compared with the recent 78.0 percent and 22.0 percent. If we also omit 1928, another year which cannot be considered either as "normal" or as a standard to which anyone hopes the stock market should return, then the evidence of a shift toward debt would largely vanish.

2. Refundings versus New Money Issues. Another objection to the interperiod comparisons of the type given above is that the data on total gross proceeds include refundings as well as new money issues. Since refundings, are vastly more important for bonds than for stocks, the series on total gross proceeds tends to exaggerate the extent to which corporations are really relying on debt as opposed to equity financing (some of the debt, in effect, being counted more than once). And, more to the immediate point, the aggregate figures including refundings may distort comparisons between periods since refundings are not a constant fraction of the total but tend to come in waves triggered off by falling interest rates.

Estimates of the separate annual totals of new money and of refunding issues by type of security from 1920-56 are presented in Appendix Tables V-A1 and V-A2 and the relevant interperiod comparisons are summarized in Tables V-4, V-5 and V-6.⁴ As can be seen from these summary tables, the picture does change somewhat, although not very drastically when we consider only the new money issues. The apparent shift toward debt from the 1920's to the postwar years is actually larger than was the case for total gross proceeds, but the absolute extent of the shift is still only a matter of a few percentage points when 1928 and 1929 are excluded.⁵

⁴From 1920 to 1940 both the data on total gross proceeds and the division into refundings and new money issues are the Commercial and Financial Chronicle tabulations. From 1940 to 1956, the series on total gross proceeds and on total new money issues are S.E.C. tabulations, but since the S.E.C. does not publish a breakdown of new money issues by type of security, it was necessary to estimate the separate series of new money issues of stocks and bonds. The estimates presented were made by subtracting from the S.E.C. data on total gross proceeds by type, the Commercial and Financial Chronicle series on refundings of preferred stock and common stock. Estimated refundings of bonds were derived as a residual from the S.E.C. total new money series and the estimated total of new money common and preferreds. Because the S.E.C. series on total new money issues nets out certain flotation costs as well as refundings this procedure tends to underestimate new money bond issues in the 1947-56 period.

⁵In addition to this evidence from the new money series of an apparently increased willingness to incur new debt, evidence of a corresponding increased reluctance to retire outstanding debt is seen by some (e.g. D.T. Smith in [24]) in the marked decline in refunding issues of common stock. Such issues averaged only \$15.3 million in the postwar period as compared with over \$120 million annually in the 1920's as a whole and \$35 million even with the peak years of 1928 and 1929 excluded (Table V-4). It should be kept in (continued on page 396)

TABLE V-4

Average Annual Proceeds from Refunding Issues and from New Money Issues of Securities
for Cash by U.S. Corporations, 1920's and Postwar
(In millions of dollars)

Period	Refunding Issues					New Money Issues				
	Bonds and Notes	Equity Issues			Total Debt Plus Equity	Bonds and Notes	Equity Issues			Total Debt Plus Equity
		Preferred Stock	Common Stock	Total Equity			Preferred Stock	Common Stock	Total Equity	
1920-1929	673.2	84.8	121.7	206.5	879.6	2,158	612	980	1,592	3,751
1920-1928	687.8	74.4	62.4	136.8	824.5	2,167	512	599	1,111	3,278
1920-1927	642.0	52.5	35.0	87.5	729.6	2,140	432	448	880	3,020
1947-1956	732.3	73.1	15.3	88.4	820.7	5,678	556	1,239	1,795	7,473

Source: See Appendix Table V-A1.

TABLE V-5

Average Annual Percentage of Proceeds from Debt and Equity in New Money Issues of Securities
for Cash by U.S. Corporations, 1920's and Postwar

Period	Bonds and Notes	Equity Issues		
		Preferred Stock	Common Stock	Total Equity
1920 - 1929	64.5	14.7	20.6	35.3
1920 - 1928	68.8	14.2	16.7	31.0
1920 - 1927	71.8	13.4	14.6	28.0
1947 - 1956	76.3	7.8	16.1	23.9

Source: See Appendix Tables V-A1 and V-A2.

TABLE V-6

Percentage of Proceeds from Debt and Equity in Average Annual New Issues of Securities
for Cash for New Money by U.S. Corporations, 1920's and Postwar

Period	Bonds and Notes	Equity Issues		
		Preferred Stock	Common Stock	Total Equity
1920 - 1929	57.5	16.3	26.1	42.4
1920 - 1928	66.1	15.6	18.3	33.8
1920 - 1927	70.9	14.3	14.8	29.1
1947 - 1956	75.9	7.4	16.5	24.0

Source: See Appendix Table V-A1.

3. Variations in Patterns among Industries. The class of firms described in the series on flotations as "all corporations" is a heterogeneous class indeed, a fact which adds at least two additional sorts of difficulty to the search for changes in financing patterns. First, the aggregate data on flotations include security issues by capital market intermediaries, notably investment companies. Since investment company issues consist almost entirely of common stock, the inclusion of such firms means that the equity ratio of the fully taxable, nonfinancial corporations which are our concern is necessarily smaller than the aggregate data would seem to indicate. And, to the extent that the proportion of equity flotations accounted for by these intermediaries has changed over time then inter-period comparisons will also be distorted.

Second, even within the nonfinancial sector, patterns of financing and debt-equity ratios vary widely from industry to industry. Hence the observed shift to debt in the aggregate data might really represent only the fact that a larger fraction of financing in recent years happens to be coming from certain rapidly growing industries with high average debt ratios (such as public utilities); or conversely, an even greater shift to debt in recent years by the generality of corporations could conceivably have been masked because of the relative decline since the 1920's in the importance of certain high-debt sectors (such as railroads or land and building companies).

To check on these possibilities some estimates, based on Commercial and Financial Chronicle tabulations are presented separately in Appendix Tables V-A3 and V-A4 showing annual new money and total flotations by public utilities and by industrial corporations (defined as all corporations other than public utilities, railroads, land and building companies, investment trusts and holding companies). The interperiod comparisons for the new money issues are given in Tables V-7, V-8 and V-9.

(Footnote 5, continued from page 392)

mind, however, that the series on refunding issues of common stock will understate the extent to which temporary debt is being replaced even by permanent equity securities if only because the conversion of convertible debt issues would not be included in the series as presently constituted. Nor, unfortunately, are there separate long series on convertibles which would permit an interperiod comparison to be made. More important than either refunding issues or conversions is, of course, the steady replacement of debt with equity in the form of retained earnings through the sinking fund or amortization provisions in most long-term debt contracts. See below Section C.

TABLE V-7

Average Annual Proceeds from New Money Issues of Securities for Cash by U.S. Public
 Utilities and Industrial Corporations, 1920's and Postwar
 (In millions of dollars)

Period	Public Utilities			Industrial Corporations		
	Bonds and Notes	Preferred and Common Stocks	Total	Bonds and Notes	Preferred and Common Stocks	Total
1920 - 1929	777	493	1,270	900	772	1,672
1920 - 1928	786	411	1,197	898	579	1,477
1920 - 1927	752	368	1,120	896	465	1,361
1947 - 1956	2,175	757	2,932	2,472	726	3,198

Source: See Appendix Table V-A3.

TABLE V-8

Average Annual Percentage of Proceeds from Debt and Equity in New Money Issues of Securities for
Cash by U. S. Public Utilities and Industrial Corporations, 1920's and Postwar

Period	Public Utilities		Industrial Corporations	
	Average Annual Percentage of Proceeds from New Money Issues Represented by		Average Annual Percentage of Proceeds from New Money Issues Represented by	
	Bonds and Notes	Preferred and Common Stocks	Bonds and Notes	Preferred and Common Stocks
1920 - 1929	65.3	34.7	60.4	39.6
1920 - 1928	68.5	31.4	64.1	35.8
1920 - 1927	69.8	30.2	67.3	32.6
1947 - 1956	74.6	25.4	77.3	22.7

Source: See Appendix Tables V-A3 and V-A4.