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CONVERTING CORPORATIONS TO PARTNERSHIPS THROUGH LEVERAGE:
THEORETICAL AND PRACTICAL IMPEDIMENTS

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ABSTRACT

We explore the degree to which debt financing can reduce the corporate-level tax on income in the U.S.. Although we show that debt is capable of shielding the competitive rate of return on projects from the corporate-level tax, debt financing cannot shield the positive net present value portion of project returns. Since nontax factors preclude corporate activities from being 100% debt-financed, a portion of the competitive return to corporate activity is also subject to double taxation.

We also consider alternative mechanisms that serve to convert the corporate tax to a personal tax (or a partnership tax). These include other claims that give rise to tax deductible payments to the corporation such as obligations to employees, lessors and suppliers. As we show, all of these alternatives are limited in their ability to eliminate the corporate-level tax.

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I. The Evolution of the Treatment of Debt and Equity in the Tax Laws in the U.S.

Whether debt financing is tax-favored relative to equity financing depends upon the magnitude of shareholder-level taxes, corporate-level taxes, and personal taxes. The tax laws in the U.S. have always treated debt differently from corporate equities. Whereas interest paid on debt is tax-deductible to corporate borrowers, dividends paid on common and preferred stock is not. In addition, whereas gains and losses on the repurchase of corporate bonds are taxable events to corporate issuers, the same is not true of share repurchases. On the investor side, interest from bonds is taxable as ordinary income whether paid out currently or not, while dividends and changes in the value of stocks are taxable only when realized. Moreover, dividends receive tax-favored treatment to corporate shareholders, and capital gains, besides being granted favorable tax-deferral treatment, have also been taxed at rates well below that of ordinary income to many shareholders.

Since the returns to corporate stock are tax-favored relative to bonds, investors are willing to accept lower pre-tax equity returns, on a risk-adjusted basis, to invest in them. This is similar to what we observe in the market for tax-exempt bonds, where the pre-tax yields are substantially below those of fully-taxable bonds. The same can readily be observed in the market for adjustable-rate preferred stocks in the U.S., held almost exclusively by corporations for whom the dividend income is largely tax exempt.

The pre-tax return differential on corporate common stocks is more difficult to document than it is for preferred stocks and tax-exempt bonds. The variability of stock returns is very large relative to the size of the possible tax effects. Moreover, there is a lack of consensus as to the appropriate risk adjustment to make to stock returns (e.g., single-factor pricing models such as the capital asset pricing model versus multi-factor pricing models) so that

they can be compared to the returns of equally-risky corporate bonds. But the tax-favored treatment of corporate stock in the hands of investors should result in lower risk-adjusted pre-tax returns. This reduction in rates exacts an implicit tax on investors. Symmetrically, the rate reduction represents an implicit tax subsidy to issuers of corporate stocks that compensates, at least partially, for the nondeductibility of dividends.¹

Note that holding everything else constant, increasing the tax rate to investors on income from share ownership reduces the pre-tax wedge between shares and bonds (and therefore reduces the implicit tax subsidy to issuing shares). This makes stock more expensive for corporations to issue relative to bonds. Similarly, increasing corporate tax rates relative to personal tax rates favors corporate debt financing to the extent that such financing moves taxable income from the corporate sector to the noncorporate sector.

Prior to 1981, top marginal tax rates in the corporate sector were well below top marginal personal tax rates. Top personal rates were 70% from 1965 to 1981 whereas top corporate rates were in the 50% range. In the two decades preceding 1965, top personal rates were in the 90% range. During this period of time, top long-term capital gains rates to individuals ranged from 25% to 35%. Such a configuration of tax rates should have caused common stocks to bear substantial implicit taxes, and corporate debt financing might not have been the least bit tax-favored for many corporations during this period.

With the passage of the Economic Recovery Tax Act in 1981, personal tax rates were reduced dramatically while corporate rates were not. But at the same time, capital gains rates were also slashed. Moreover, with interest rates at record levels, the tax advantage of capital gain deferral was particularly high at this time. With top personal tax rates set at a level just above top corporate tax rates, the 1981 Tax Act began to move incentives in the direction of increased corporate borrowing, although this effect was mitigated by the reduction in capital gains tax rates and high interest rates. By 1984, interest rates had subsided dramatically, reducing the tax-sheltered nature of common stocks to some extent, and this further promoted debt financing over equity financing by corporations.

As always, important nontax factors were also bearing on corporate financing decisions during the early 1980s. In particular, mature corporations were discovering that it was efficient, from a corporate control standpoint, to restructure by buying back equity with the proceeds of debt issues, thereby committing to distribute "free cash flows" to investors through bond interest and principal repayments.² Moreover, increased reliance on strip financing (where institutional investors acquire combinations of junior debt along with

¹See Stiglitz (1973), Miller (1977), Auerbach (1983), and Scholes and Wolfson (1987, 1990).

²Jensen (1986).

equity and/or senior debt, to reduce conflicts of interest among classes of investors) and the rise of active bondholders enabled more debt to be issued without the prospect of incurring excessive deadweight restructuring and bankruptcy costs in the event of default on corporate commitments to creditors.³ But it does not seem appropriate to view these developments as being completely independent of the evolution of the tax law. The tax law may well have provided important incentives for the proliferation of these institutional arrangements.

Corporate restructuring took a decided turn in 1984. Net new borrowing by corporations exploded to nearly \$160 billion a year during 1984-1986 from \$66 billion per year during 1978-1983. At the same time there was a quantum leap in the magnitude of both share repurchases (\$37 billion per year 1984-1986 versus \$5 billion per year 1978-1983) and other equity retirements via corporate acquisitions (\$75 billion per year 1984-1986, versus \$15 billion per year 1980-1983).^{4,5}

The 1986 Tax Reform Act had an even more dramatic impact on favoring corporate debt financing. Personal rates were reduced to a level well below that on corporations (28% for wealthy individuals versus 34% for corporations by 1988) and capital gains tax rates were increased dramatically. This, in conjunction with relatively low interest rates, substantially reduces the implicit tax on shares, thereby making equity financing a particularly expensive way to finance corporate investment.

That debt financing has become more tax-favored with the 1981 and 1986 Tax Acts is closely related to noncorporate forms of organization becoming more tax-favored relative to the corporate form. If all corporate earnings before interest and taxes could be distributed to investors as interest, the corporation would essentially be converted to a partnership for tax purposes. There would be no entity-level tax imposed on the corporation,⁶ and all owners would pay tax at the personal level on interest income. It would be as if the shareholders owned income bonds.

There are many ways in which the firm can "lever up." One method that has received considerable attention is leveraged buyouts or LBOs. Others

³Jensen (1989).

⁴The 1984 Deficit Reduction Act also eliminated withholding taxes on newly-issued bonds and other evidences of indebtedness that generate portfolio interest income to foreign investors. Bonds purchased by foreigners skyrocketed from less than half-a-billion dollars per quarter over the preceding decade to over ten billion dollars per quarter over the next three years. Flow of Funds Accounts, Fourth Quarter 1988 (Board of Governors of the Federal Reserve System, Washington, D.C.)

⁵Federal Income Tax Aspects of Corporate Financial Structures (Joint Committee on Taxation), January 18, 1989, Table I-A, I-B on pp. 8-9.

⁶This ignores any corporate "alternative minimum tax" that may be assessed.

include (1) debt-for-equity swaps, (2) dividend-for-debt exchanges, (3) cash redemption of stock financed with debt, (4) deferred compensation plans, (5) partnership arrangements involving deferred payments, and (6) leveraged Employee Stock Ownership Plans (ESOP). An important tax issue that arises in leveraged buyouts and other debt-increasing recapitalizations is whether the IRS will claim that the debt issue is really equity in disguise.⁷ As we show, all of these alternatives are limited in their ability to eliminate the corporate-level tax.

II. The Tax Advantages of Debt: A Simple Model

Assume that the corporation has an investment project that will return Y dollars of taxable income and cash before interest and taxes. The required investment in the project is \$1. For an all-equity-financed firm, the after-tax return on the investment would be

$$Y(1 - t_c)(1 - t_s),$$

where t_c is the corporate marginal tax rate and t_s is the annualized shareholder-level tax rate. If shareholders sell shares, they pay tax at rate gt_p , where g is the fraction of realized income from shares that is taxable and t_p is their marginal tax rate at the time the sale occurs. Shareholders, however, can defer the realization of capital gains and in some cases avoid paying capital gains taxes entirely by donating stock to charity or by realizing a

⁷ Other problems arise if the debt is issued with original issue discount (i.e., when a debt or preferred stock issue has a redemption price that exceeds its respective issue price or when a debt issue pays interest at a below-market rate). Tax issues arise as to how these discounts are to be amortized over the life of the instruments. Nontax costs arise for taxpayers who accrue taxable income without receiving cash payments. Some taxpayers might need to borrow to make their tax payments. As a result of deadweight financing costs, certain taxpayers might be the wrong clientele for these original issue bond or preferred stock issues.

In an LBO effected by management, the target's management generally borrows to buy shares in the new firm (Newco). Individuals, who are partners or S-Corporation shareholders, also borrow to acquire the target's stock. These taxpayers, however, might not be able to take tax deductions for all of the interest on their debt. Under Code Sec. 163(d), individual taxpayers can deduct "investment interest" only to the extent of their "net investment income," which includes interest, dividends, and net capital gains realized on the sale of assets. The excess is carried forward to future tax years. As a result of this restriction, management may face high after-tax costs to finance their part of the acquisition. As an alternative, Newco management could argue that they had to borrow to buy their shares as part of their trade or business. The investment interest limitation under Code Sec. 163(d) would thereby be avoided by treating interest as an employee business expense. Following the 1986 Tax Act, however, this would be a losing strategy. Interest payments on this type of debt are now considered interest on personal debt and no longer tax deductible. To some extent managers could use first and second home mortgages to buy the stock of Newco and still deduct the interest payments.

stepped-up basis on death. Moreover, capital gains tax rates are not necessarily constant over time (both g and t_p can change), and shareholders have an option to time their realizations strategically to coincide with periods of relatively low tax rates. As a result, the marginal tax rate on the returns to shares on an annualized basis, t_s , is lower than the current values of g and t_p .

To ease notation, we define t_d by the following identity:

$$(1 - t_d) = (1 - t_c)(1 - t_s).$$

From the identity above, t_d can be interpreted as the total tax rate that shareholders pay on income earned by their all-equity-financed corporations. The subscript "d" is chosen to denote a "double" tax, once at the corporate level (t_c) and then again at the shareholder level ($t_s(1 - t_c)$). With this notation, the after-tax return to shareholders from investing in an all-equity-financed corporate project that yields Y dollars of corporate taxable income is

$$Y(1 - t_d).$$

If the firm were to finance the project with debt instead of equity, reducing taxable income by the interest payments at rate R_b , the after-tax return to stockholders would be

$$(Y - R_b)(1 - t_d),$$

and the after-tax return to the firm's bondholders would be

$$R_b(1 - t_p).$$

If the interest on the debt, R_b , were equal to Y , then corporate taxable income would be zero. The corporate-level tax would disappear, and the firm's debtholders would realize a return of

$$R_b(1 - t_p) = Y(1 - t_p).$$

This could happen if the firm's only shareholders were its bondholders and all of the firm's income were paid out as interest. In effect, the firm's owners (the bondholders) would be taxed as if they were partners in a partnership, and the income earned by the corporation would escape an entity-level tax.⁸

In general this strategy will not work. A corporation must have shareholders. In principle, the firm's capital structure could consist of some

⁸The corporation could still face corporate-level capital gains taxes on its liquidation. A partnership does not pay partnership-level taxes on any gains realized on the sale of its assets.

form of strip financing where each investor acquires both debt and equity in constant proportions and the firm "overpays" on the debt component of the package. In the extreme, if interest rates are set high enough, the stock portion of the strip would receive no return and have a market value of zero. Were it not for tax rule restrictions, this ruse would avoid the double taxation of corporate income. All the payments on the debt would be tax deductible even though they included equity returns (in the form of interest) to shareholders. However, the IRS would consider this arrangement to be a sham. For debt to be distinguished from equity under Code Sec. 385, there must be a disproportionate interest in the profits of the firm: the debt and equity holders can not be one and the same investor, directly or indirectly through related party ownership of securities. A significant proportion of the shares must be held by shareholders who are not also bondholders. This defeats the ability of strip financing to eliminate the corporate tax completely, and partnerships remain tax-advantageous relative to corporations.

III. The Corporate Taxation of Economic Rents versus Competitive Returns

Surprisingly, if the corporation earns a non-competitive rate of return on its investments (that is, a return above its cost of capital), its shareholders must pay a full corporate and personal tax on these excess profits even if the firm finances the investments with debt.

To illustrate this, assume that the corporation finds an investment project that will return Y percent before interest and taxes (e.g., 20% a year on a risk-adjusted basis, when the risk-adjusted borrowing rate is 8% before tax). If the project is financed with equity, shareholders pay a full double tax on the corporate income, and they are left with $Y(1 - t_d)$ after corporate-level and shareholder-level taxes.

Suppose that shareholders finance their equity investment in the corporation by borrowing on personal account at rate R_b . In that case, their after-tax annualized net return, assuming the interest is tax-deductible at rate t_p , would be $Y(1 - t_d) - R_b(1 - t_p)$. This appears as Case I in Table 1. However, to use these interest deductions fully, shareholders must have investment income from other sources. That is, because of the restrictions imposed by Section 163(d), interest deductions in any tax year cannot exceed realized investment income.⁹

⁹One way to generate investment income is to realize capital gains on shares. But if shares are sold early to enable the deduction of interest expense, shareholders lose some of the advantage of deferral of the shareholder-level tax. In other words, t_s increases, and this increases t_d as well.

If the same investment undertaken by the corporation were instead undertaken through a partnership, the after-tax return to investors would be $Y(1 - t_p)$. If the partners borrowed on personal account to finance this project, their net return would be $Y(1 - t_p) - R_b(1 - t_p)$ or $(Y - R_b)(1 - t_p)$. This is Case II in Table 1.

Case II serves as a useful benchmark against which to evaluate the taxation of corporate investment returns, since there is no double taxation of partnership investment income. Note also that the net return to partnership investors would be the same whether the borrowing is undertaken on personal account or through the partnership. As we will see, this is not true of corporate investors.

A comparison of these two cases I and II in Table 1 reveals that personal leverage does nothing to eliminate the double tax on the all-equity corporate investment. If instead, the corporation borrows to finance this project at the corporate level, it returns to shareholders $(Y - R_b)(1 - t_d)$. This is Case II in Table 1. Here, the advantage of the partnership form over the corporate form, even for 100% debt-financed investments, is

$$(Y - R_b)[(t_d - t_p)].$$

Corporate-level financing succeeds in eliminating double taxation on R_b of income (the competitive return), but not on the excess.

To illustrate, if $Y = 20\%$, $R_b = 8\%$, $t_c = 34\%$, $t_p = 28\%$, and $t_s = 20\%$, then a corporate debt-financed investment (Case III) yields a profit to shareholders after interest and taxes of $(20\% - 8\%)(1 - 34\%)(1 - 20\%)$ or 6.34% of the amount invested in the project versus 8.64% (or $(20\% - 8\%)(1 - 28\%)$) to partnership owners. The excess return to the partners is 36% higher than to corporate shareholders.

Due to nontax factors, however, the pretax return on projects might differ between corporations and partnerships. To generate the same after-tax return as partners, the pretax return on the corporate project would have to increase from 20% to 24.36%.

Table 1 The Degree to Which Debt Financing Avoids Double Taxation

	Form of Debt-Financed Investment	Net After-Tax Return to Investor	Double Tax Avoided?
Case I.	Equity-Financed Corporation	$Y(1 - t_d) - R_b(1 - t_p)$	Not at All ^a
Case II.	Debt-Financed Partnership	$(Y - R_b)(1 - t_p)$	Completely
Case III.	Debt-Financed Corporation	$(Y - R_b)(1 - t_d)$	On R_b only ^b
	II - I:	${}^a Y(t_d - t_p)$	
	II - III:	${}^b (Y - R_b)(t_d - t_p)$	
	III - I:	$R_b(t_d - t_p)$	
	Y	≡	Taxable project return before taxes;
	R_b	≡	Pretax interest rate on debt;
	t_d	≡	Total tax rate to shareholders on income earned at the corporate level. The rate equals t_c , the corporate tax rate, plus $t_s(1 - t_c)$, where t_s is the annualized shareholder-level tax rate paid on gains from holding corporate stock: $(1 - t_d) = (1 - t_c)(1 - t_s)$;
	t_p	≡	Tax rate paid on ordinary income earned at the personal level, including income earned by partnerships (passed through to its partners) and interest income or expense.

Moreover, due to such nontax factors as restructuring costs, it might be undesirable to finance projects with 100% debt even if the taxing authority would allow it.¹⁰ This would further favor partnerships. For example, if projects were 50% debt-financed, the project would have to earn 25.82% in corporate form to provide the same after-tax return as the 20% partnership project.¹¹ In other words, corporate profitability before interest and taxes would have to be 5% higher for the 50% debt-financed corporation than for the 100% debt-financed corporation to provide identical net returns to shareholders.

Firms Cannot Eliminate All Corporate-Level Taxes By Borrowing for Multiple Periods

Some firms borrow a sufficient amount to wipe out their current taxable income. Does this strategy convert the tax rate on the total return (the required plus the excess return) to the personal tax rate as in a partnership? The answer is no. To illustrate this point, let us assume that the firm earns Y percent per year in perpetuity on a project and borrows at rate R_b to finance it. Its before-tax excess return is $Y - R_b$ each year.

To eliminate its entire before-tax income, the firm could borrow an additional $(Y - R_b) / R_b$ dollars. The interest payments on this loan would be supported by the annual project cash flows of $Y - R_b$.

But what would the firm do with the loan proceeds? If it cannot pay out the loan proceeds to its stockholders (perhaps due to loan covenant restrictions) and it invests in competitive projects, it would earn at rate R_b per dollar invested in the additional projects. This generates taxable income of $(Y - R_b)$ (or $((Y - R_b) / R_b) \times R_b$). This strategy leaves the firm exactly where it started before undertaking additional borrowing.

Alternatively the firm might attempt to engage in some form of clientele-based arbitrage. That is, it might take a long position in tax-favored assets financed with debt that gives rise to fully deductible interest payments. For example, suppose the firm were to purchase tax-exempt assets, such as municipal bonds, with the loan proceeds. Even if the tax rules allowed the firm to deduct interest following the purchase of such assets, the firm could only convert the corporate-level tax rate to the marginal tax rate that sets

¹⁰On the other hand, in the event of bankruptcy, there may also be benefits from transferring control of the firm to a management team that can do a better job than would the incumbents. See, for example, Aghion and Bolton (1988).

¹¹Remember that risk is held constant across these financing alternatives, because any equity investment in the corporation is financed by borrowing on personal account. This avoids a comparability problem.

prices in the tax-favored asset market. That is, while explicit taxes would be reduced, so would pretax returns on the investment, an implicit tax.

If the corporation borrows $(Y - R_b)/R_b$ to eliminate corporate taxable income and is permitted to pay out the entire loan amount to its stockholders, either as a dividend or a repurchase of shares, this would not eliminate the double taxation either. Shareholders would realize current taxable income on the distribution.¹² The amount of taxable income typically depends on whether the distribution is a dividend or a share repurchase, as well as on the magnitude of "earnings and profits" in the corporation and the shareholders' basis in shares. If the shareholders have a zero cost basis in their shares (after all, the projects are all debt-financed), then any distribution will be fully taxable as a dividend or a capital gain. In this case, after paying the shareholder-level tax, the firm's shareholders retain

$$\frac{(Y - R_b)}{R_b}(1 - g t_p),$$

where, as before, g denotes the fraction of the income that is fully taxed at rate t_p .

Note that if shareholders can reinvest this after-tax amount at rate R_b , before tax, they generate an annual after-tax cash flow stream of

$$(Y - R_b)(1 - g t_p)(1 - t_p).$$

Compare this to the annual cash flow to partners in a partnership if they finance a project at rate R_b that returns Y percent per period in perpetuity:

$$(Y - R_b)(1 - t_p)$$

So the corporation cannot avoid a second level of tax on the excess return on corporate projects through additional corporate borrowing, even if the proceeds are distributed to shareholders. This is true even if the distribution takes the form of a share repurchase and shareholders have some cost basis in their shares. In that case, g would be less than one, but it would still be positive, and an additional round of tax results relative to what transpires in a partnership.

To illustrate this point, let us assume that the firm can generate 20% on its \$1 debt-financed investment each year forever. The required annual return on projects of this risk is 8%. On the strength of these cash flows, it borrows an additional \$1.5 (or $(.2 - .08)/.08$) for a total loan of \$2.50 per \$1 of

¹² If the firm had no accumulated earnings and profits, many state laws would prevent the firm from distributing the loan proceeds to shareholders.

investment and pays no taxes each year. The firm requires \$1 for investment in the project, which generates \$.20 of taxable cash income per year, forever. After it pays \$.08 in interest to bondholders for the \$1 borrowed, the corporation is left with \$.12 of before-tax income. By borrowing \$1.50 more, it pays an additional \$.12 in interest each year at 8%. As a result, its net income is \$0 (or $.2 - .08 - .12$), assuming that no additional corporate taxable income is generated with the excess \$1.50 loan.

But the firm must do something with the \$1.50 debt proceeds. If it could pay out the \$1.50 to its shareholders, the payment would be at least partially taxable as a dividend or a capital gain. If the entire distribution is taxable at t_p of 28%, shareholders would net only \$1.08 (or $\$1.50 \times (1 - .28)$). The present value of the same opportunity in partnership form is \$1.50, a perpetuity of $(Y - R_b)(1 - t_p)$, discounted at $R_b(1 - t_p)$ or $(.2 - .08)(1 - .28) / .08(1 - .28)$.

It Does Not Always Pay For The Firm to Recapitalize and Distribute the Loan Proceeds

If the firm has undertaken a project that returns Y percent per year forever and has issued debt at an interest rate of R_b to finance the entire project, then it would realize $(Y - R_b)(1 - t_c)$ per year after corporate-level tax. Since shareholders can defer paying the tax on this excess return until they realize a gain, their annualized effective shareholder-level tax rate, t_s , is generally less than t_p . For example, because of deferral opportunities, t_s might be only 20% when t_p is 28%. For the firm's shareholders, the present value of this investment opportunity is

$$\frac{(Y - R_b)(1 - t_d)}{R_b(1 - t_p)}$$

Substituting the parameter values from our illustration yields

$$\frac{(.2 - .08)(1 - .34)(1 - .2)}{.08(1 - .28)} = \$1.10.$$

With full borrowing and immediate taxation of the gain at the shareholder level, the present value of the investment opportunity is \$1.08. Without borrowing, and deferral of the shareholder-level tax, the present value of the opportunity is \$1.10. More generally, the firm must trade off realizing shareholder-level taxes earlier than necessary against the advantage of converting the corporate-level tax rate to the shareholder-level tax rate (e.g., 34% to 28%) on corporate taxable income. Recapitalization may not be a tax-advantageous strategy for fully-taxable shareholders. Note, however, that with heterogeneous shareholders, a partial recapitalization allows

shareholders for whom deferral is unimportant (e.g., pension funds) to step forward to liquidate their interests in a share repurchase.

Let us define gt_p as the shareholder-level tax today, and t_{sn} as the annualized shareholder-level tax rate if the capital gain is realized in n years. Then in the presence of a perpetual investment opportunity yielding Y per year, the advantage of a 100% leveraged recapitalization of the firm with a complete payout to shareholders today rather than borrowing an amount only up to the required investment level is

$$\frac{(Y - R_b)}{R_b} \left[(1 - gt_p) - \frac{(1 - t_c)(1 - t_{sn})}{(1 - t_p)} \right] \quad (1)$$

As seen in the expression above, if gt_p , t_{sn} and t_p are equal to each other (which requires, among other things, that $g = 1$, that is no capital gains exclusion), then the advantage of leverage is to allow corporate income to be taxed at the personal rate (e.g., 28%) rather than the corporate rate (e.g., 34%). If deferral of the capital gain is quite tax advantageous (that is, gt_p exceeds t_s), then some of the advantage is offset because shareholders are forced to pay taxes early. In fact, in our example, it was tax-disadvantageous to increase leverage because the firm's shareholders paid tax early on their gains.

Gains to Tax-Exempt Holders of Common Shares

As seen from expression (1), tax-exempt holders gain by levering up to eliminate corporate taxes and distributing the proceeds to shareholders. They gain $t_c(Y - R_b)/R_b$ by escaping the corporate-level tax on their investment. Using our illustration, tax-exempt holders realize \$1.50 after tax. If the corporation were to pay corporate tax, the present value of the firm would be only \$.99 (or $.66 \times \$1.50$) to these tax-exempt entities. So, if tax-exempt institutions succeed in pressuring corporations to restructure (that is, add leverage and use the loan proceeds to pay out dividends to shareholders), they gain, although this may be at the expense of individual shareholders. So, on net, it might not be tax-advantageous to restructure.¹³ On the other hand, if the distribution is made by way of a share repurchase rather than a dividend, the conflict may be mitigated as tax-exempt holders can step forward to sell their shares.

Foreign investors may also benefit from a strategy of corporate leverage and share repurchase. Such investors are exempt from U.S. capital gains

¹³Increasing the firm's leverage increases the likelihood of bankruptcy. In the event of bankruptcy, shareholders can deduct the capital loss only against other realized capital gains (plus \$3,000) each year. All realized capital gains, however, are fully-taxable in the year incurred. This asymmetric treatment might increase the tax on shares. On the other hand, shareholders can time their sales to realize losses earlier than they realize gains.

taxation, while they face withholding taxes on dividends that range from a rate of 5% to 30%, depending upon the treaty the foreign investors' home countries have with the U.S.. The degree to which the foreign investor benefits also depends upon how the home country taxes U.S. dividends and capital gains, as well as whether the home country allows a foreign tax credit for U.S. taxes paid on dividends.

Finite Duration Debt

If the firm's cash flows will generate abnormal profits forever, there is some advantage, at least for tax-exempt entities and certain foreign investors, for the firm to increase its leverage and make payments of the loan proceeds to stockholders. When the firm faces the prospect of earning abnormal profits for only a limited time period, however, this further restrains the advantage of corporate leverage, and the partnership form becomes even more tax-advantageous relative to the corporate form.

To eliminate corporate taxable income, the firm must borrow $(Y - R_b)/R_b$ to generate $(Y - R_b)$ of interest payments each year. If the firm's projects will generate abnormal returns for only n years, the firm can not afford to pay out the entire loan proceeds to its stockholders. To ensure repayment of the loan, it must retain an amount sufficient to repay the loan principal at its maturity in n years. Since interest on the loan will be exactly offset by cash flows from the project, there are no residual cash flows available to repay loan principal unless some loan proceeds are retained within the firm. Assuming that the corporation can invest at the annual rate of R_b , before tax, on marginal investments, netting $R_b(1 - t_c)$ after tax per dollar invested, it must retain an amount ρ such that

$$\rho (1 + R_b(1 - t_c))^n = \frac{(Y - R_b)}{R_b}.$$

This ensures that the loan can be repaid. So the amount that must be retained is equal to

$$\frac{(Y - R_b)}{R_b} \bigg/ (1 + R_b(1 - t_c))^n \quad (2)$$

Note that this retention precludes the corporate-level tax from being eliminated entirely, let alone the shareholder-level tax.

If the firm borrows $(Y - R_b)/R_b$ dollars and retains the amount specified in expression (2), it can distribute

$$\frac{(Y - R_b)}{R_b} \left[1 - \frac{1}{(1 + R_b(1 - t_c))^n} \right]$$

to its stockholders. After paying the shareholder-level tax, shareholders retain

$$\frac{(Y - R_b)}{R_b} \left[1 - \frac{1}{(1 + R_b(1 - t_c))^n} \right] (1 - g_t_p).$$

Compare this to a strategy of no additional corporate borrowing beyond that required to finance the project. If the corporation retains the excess profits of $(Y - R_b)$ each period for n periods and reinvests them at rate $R_b(1 - t_c)$, the present value of this annuity, after corporate tax, but before shareholder-level tax would be

$$(Y - R_b)(1 - t_c) \left[\frac{1 - [1 + R_b(1 - t_c)]^{-n}}{R_b(1 - t_c)} \right],$$

which simplifies to

$$\frac{(Y - R_b)}{R_b} \left[1 - \frac{1}{(1 + R_b(1 - t_c))^n} \right].$$

If this amount is then distributed to shareholders, the net amount available is exactly the same as when the corporation undertook additional borrowing. As a result, there is no advantage whatsoever for the corporation to undertake additional borrowing beyond its project financing requirements to eliminate its current taxable income. By contrast, if the project were undertaken through a partnership: (1) the shareholder-level tax would be avoided and (2) the excess returns would compound net of the partnership tax rate, t_p , rather than the higher corporate tax rate, t_c .

Why Do So Many Restructured Firms Seem to Pay No Corporate Tax?

It is commonly believed that corporate restructurings involving significant amounts of newly-created debt enables the corporate tax to be eliminated.¹⁴ But we have demonstrated that this is not really so. Why, then, do so many restructured firms seem to pay no corporate tax? A number of factors may be at work here.

First, to the extent that debt is issued in sufficient quantity to eliminate corporate taxable income, it must be that significant amounts are distributed to shareholders, thereby triggering immediate realization of taxable gain at

¹⁴For example, see Saunders (1988).

the individual level. A study by Jensen, Kaplan, and Stiglin (1989) illustrates this phenomenon in the context of the recent leveraged buyout of RJR-Nabisco by Kohlberg, Kravis, Roberts & Co.. Second, to the extent taxable income in the post-restructuring period is temporarily low due to nonrecurring expenses associated with the restructuring, future taxable income at the corporate level can be significant. Examples of such nonrecurring expenses are costs associated with plant closings, the sale of other assets that have declined in value, severance pay for employees, and consulting, legal and certain investment banking fees associated with the restructuring that are currently tax deductible. Third, restructuring may occur during periods of transitory operating losses. And fourth, the restructured firm may invest in tax-sheltered assets that avoid explicit taxes but at the expense of paying implicit taxes through reduced pretax returns on investment.

Whatever the reason, if corporate restructuring does not eliminate all positive net present value projects to the corporation, a second level of tax on the excess return generated by the corporation will not be avoided. Moreover, a second level of tax on projects undertaken in the past, whether positive net present value or not, cannot be avoided due to the shareholder-level tax that results from replacing equity with debt. This misunderstanding may contribute to recent interest expressed by many in Congress in removing the interest deductibility for some or all of the debt issued by corporations. We turn briefly to this subject next.

Comments on Proposed Elimination of Deductibility of Interest on High-Yield Debt

Recent proposals to eliminate the deductibility of interest on high-yield debt would impose considerable strains on the corporate form of organization. Partnerships would look much more attractive if this vehicle for mitigating double taxation of corporate income were eliminated. While one might argue that few would abandon the corporate form because it achieves risk-sharing and liquidity efficiencies among investors, this has not been fully tested.

Some might argue that the Tax Reform Act of 1986 provided an opportunity to test demand elasticity for the corporate form with respect to changes in the tax cost of using this vehicle. For example, while there was an explosion at the end of 1986 of conversions of regular corporations to so-called S Corporations (corporations with thirty-five or fewer shareholders electing to be taxed at the personal level each year, as in partnerships, rather than at the corporate level), there were relatively few large corporations that converted to partnership form.¹⁵ While there was a substantial burst of

¹⁵See Scholes and Wolfson (1990a).

activity undertaken through master limited partnerships (partnerships, the interests of which trade on organized exchanges), tax law changes passed in 1987 quickly halted this trend. Indeed, the mere uncertainty regarding the form such legislation might take was probably sufficient to choke off a good deal of this activity. The 1986 Tax Act did prompt substantially increased interest in pass-through corporate tax entities, such as real estate investment trusts and real estate mortgage investment conduits.

Over the past decade, there has developed a trend toward active investors and concentrated ownership.¹⁶ This reflects in part a recognition that in most relevant settings, effective monitoring and managerial performance in organizations requires key actors to have a substantial stake in organizational performance. Apparently, the favorable incentive effects of concentrated ownership have become increasingly important relative to the risk-sharing benefits that dispersed ownership confers. So partnerships may well become viable as alternatives to even large-scale corporate activity, particularly if there is a substantial difference in the tax cost of the two organizational forms. And unless tax planners could conceive of alternatives to high-yield debt as a means of distributing corporate profits in a tax-deductible manner, corporations would surely begin to lose their dominant position.

Of course, alternatives to high-yield debt would surely be devised if legislation precluding the tax deductibility of interest on such debt were enacted. For example, trade credit at low interest rates with corresponding increases in the price of goods and services exchanged is one obvious response. Closely related is the use of bank credit at below-market rates, tied to a requirement to maintain interest-free compensating balances.¹⁷ Operating leases would increase as well, with rental expense substituting for interest. Alternatively, key lenders might demand more managerial input in exchange for tax-deductible compensation and reduced interest rates. Still another response would be to reverse the trend toward deconglomeration of corporate America so as to increase the low-risk debt capacity of the firm. Unfortunately, all of these responses would exact efficiency costs on the economy.

Finally, the elimination of interest deductibility on high-yield debt would accelerate the recent trend of foreign acquisitions of U.S. corporations, particularly by investors who reside in tax jurisdictions that do not tax foreign-source income (so-called territorial tax systems). For such investors,

¹⁶Jensen (1989).

¹⁷Such a strategy was widely employed in Japan in the face of interest rate ceilings prior to deregulation in the 1980s, and in the U.S. under interest-rate ceilings specified in Regulation Q prior to deregulation. See Hoshe, Kashyap, and Scharfstein (1989).

the U.S. tax exemption on capital gains means that the shareholder-level tax on U.S. corporate income can be avoided.

Alternatives To Debt To Reduce the Corporate-Level Tax

ESOPs

Employee stock ownership plans (ESOPs) offer three ways to distribute corporate profits to investors in a tax-deductible fashion: (1) interest on ESOP loans (at specially subsidized rates), (2) employee compensation, and (3) dividends on employee-owned shares. Theoretically, a 100% ESOP-owned firm provides an opportunity to eliminate the corporate tax even if substantial physical capital is invested in the firm. The firm can distribute all of the firm's before-tax income to its employee-owners in the form of either compensation or dividends that are paid on ESOP-held shares. Compensation is tax deductible and the dividends paid on the shares held in the ESOP are tax deductible if the dividends are paid to employees (or used to pay down an ESOP loan that was used to acquire the shares held in the ESOP). This is not possible in 100% employee-owned corporations that are not organized as ESOPs, because attempts to distribute, as compensation, 100% of pre-compensation taxable income, from a business that requires nontrivial amounts of physical capital, will be met with IRS claims of excessive compensation and disguised dividends.

ESOPs have exploded in popularity since 1986, and they provide an opportunity to test the importance of tax and nontax factors that explain their proliferation. For example, to secure ESOP tax benefits, employee ownership must be allocated in ways that may provide poor performance incentives relative to alternative incentive compensation arrangements. With respect to special tax treatment, ESOPs can be viewed as being highly tax-subsidized or not subsidized at all depending upon the benchmark against which they are compared. To the extent ESOP plans replace existing stock bonus plans or the investment in employer stock held through a firm's other pension plans, ESOPs offer distinct tax advantages. To the extent ESOP plans replace debt-financed pension contributions into a plan that holds no employer securities, however, ESOPs may actually be tax-disfavored. If the latter case is the relevant one, then the recent popularity of ESOPs would likely be attributable largely to the voting control they help incumbent managements secure. For further discussion of these issues see Scholes and Wolfson (1989).

Elimination of interest deductibility on high-yield debt would increase the attractiveness of ESOPs substantially. First, employee ownership becomes desirable since both compensation and ESOP dividends are ways to distribute profits out of the corporation in a tax-deductible fashion. And second, with 50% of interest income on qualified ESOP loans tax exempt to qualified lenders, competition results in interest rates on ESOP loans being reduced.

This means that high-risk ESOP loans may bear interest rates comparable to low-risk fully taxable loans. Unless a different standard for interest deductibility were to apply to ESOP loans, the formation of ESOPs would clearly expand tax-deductible debt capacity.¹⁸

Partnerships and Other Organizational Arrangements

It is also possible for the firm to form a partnership with its shareholders. That is, if the firm undertakes new investments in a partnership with its shareholders, the new investment escapes corporate and shareholder-level taxes if all of the income can be passed through directly to the shareholders who pay tax on this income at their own personal tax rates. But even here, restrictions under Code Sec. 704(b) prevent certain disproportionate allocations of income to specific partners unless such allocations have "substantial economic effect." Also, supplier/customer transfer pricing opportunities can move income from corporate to partnership form. Franchise arrangements could be employed. The supplier or customer entity might be set up with current shareholders as owners. The corporation could then set prices strategically to shift corporate-level income to the shareholder partnership. Code Sec. 482 restricts these types of transfer pricing opportunities.

Shareholder-level Taxes Are Paid By Pension Funds

A common misconception is that the shareholder-level tax for ownership interests held by pension funds, self-administered pension plans, and insurance companies, is zero.¹⁹ At year-end 1987, more than 30% of all U.S. corporate equities were held by these entities.^{20,21} In fact, however, pension funds merely enable their beneficiaries to postpone the tax on investment income until it is distributed.²² This is true of the income earned through both the corporate and partnership form. Moreover, if a pension fund were to invest in the equity, as opposed to the debt, of a partnership, it

¹⁸The supposed tax advantages of ESOPs have not escaped the notice of members of the House Ways and Means Committee. As a result, Congress might well curtail some of the tax advantages of the interest exclusion as well as the deductibility of dividends.

¹⁹Conversations with Richard Leftwich have clarified our thinking on this point.

²⁰Board of Governors of the Federal Reserve System, "Flow of Funds Accounts: Financial Assets and Liabilities Year End, 1964-87," September 1988.

²¹Studies that estimate the revenue consequences to the U. S. Treasury of leveraged buyouts and other forms of corporate acquisitions routinely err in assuming that merger premiums received by pension funds that hold shares in target companies generate no tax revenues. (See, for example, Jensen, Kaplan and Stiglin (1989)). But in fact, the return premium generates both (deferred) income tax as well as (deferred) estate tax to be paid by beneficiaries.

²²While a tax deduction for pension contributions followed by full taxation of pension benefits is well-known to be equivalent to tax exemption of pension investment income when the pension fund invests exclusively in zero net present value projects, this result is not robust to investment in positive net present value projects.

would typically face a tax liability on "unrelated business income." This tax would be assessed at the corporate rate, t_c . For these reasons, pension fund investors find the corporate form to be less tax-disfavored (relative to partnerships) than do other investors, but not because such investors avoid shareholder-level taxes.

IV. Retained Earnings and Dividend Policy

An interesting question that arises following the passage of the 1981 and 1986 Tax Acts, which favor partnerships over corporations, is whether existing corporations should liquidate or whether they should continue to reinvest their retained earnings at the corporate level. To answer this question, we begin by ignoring information costs.²³ Suppose a corporation issued equity at its inception and used the proceeds to invest in research and development projects. After deducting the cost of the investment as an expense, it has received a cash return from the project equal to the initial cost of the investment. So, the firm has no taxable income or retained earnings, but it has generated cash equal to the original equity issue. It also expects additional cash income in the future from the R & D effort.

Assume that the firm distributes these cash returns to investors. In the absence of any "earnings and profits" in the corporation, any cash distributions made to shareholders represent a return of capital that is untaxed but reduces the tax basis of shares until the basis falls to zero. As a result, the shareholders have a tax basis of zero on their shares. This basis reduction means that when the shares are sold in the future, taxable capital gain will be increased by the same amount. Moreover, any future after-tax distributions made by the corporation will generate fully-taxable income to the stockholders (i.e, the shareholder basis can not be reduced below zero).

When the firm earns another \$1 of after-tax corporate income, should the firm retain it or pay out the \$1 as a dividend? The answer depends on a number of factors, but we wish to emphasize that it depends importantly on whether there exist projects that generate returns above the competitive rate.

Where only competitive projects are available, undertaking them through the corporation is approximately equivalent to having investors undertake them on private account following a dividend distribution: If it pays out the \$1 as a dividend today, shareholders pay taxes at their own personal tax rates, t_{p0} , and reinvest the after-tax income on their own account

²³ As we discussed earlier, much of corporate activity might not be displaced, because for nontax reasons, operating in corporate form might dominate partnerships: but these benefits may be overstated.

for n periods at an after-tax rate of $R_b (1 - t_{pn})$ or r_{pn} per period.²⁴ If the firm retains the \$1 of after-tax corporate income, on the other hand, and invests it on corporate account, it returns $R_b (1 - t_{cn})$ or r_{cn} per period after tax until it finally distributes the accumulated amount of retained earnings. At that time, shareholders pay tax on the distribution at tax rate t_{pn} . The after-tax accumulations in n periods for the two alternatives are:

Liquidate and invest on personal
account for n periods: $\$1(1 - t_{po})(1 + r_{pn})^n$

Retain and invest on corporate
account for n periods before
liquidating: $\$1(1 + r_{cn})^n(1 - t_{pn})$,

where r_{pn} and r_{cn} should be interpreted as annualized rates of return available over the n -period horizon.

The best strategy depends upon two factors: (1) the investor's marginal tax rate today, t_{po} , versus the investor's marginal tax rate in the future, t_{pn} . A decreasing tax rate, or an ability to convert dividend income into a capital gain taxed at a reduced rate, favors dividend deferral; and (2) the corporate versus investor after-tax rate of return on investment. A higher corporate rate favors current payout.

Note that if tax rates are constant over time and if corporate and personal after-tax rates of return coincide, it is a matter of indifference whether the competitive projects are undertaken in corporate or partnership form, when the corporation is an all-retained earnings firm and shareholders have a zero tax basis in their shares. This is the now-traditional trapped equity argument from the public finance literature.²⁵ At first blush, this may be a counter-intuitive result. After all, corporate income generates both an entity-level and a shareholder-level tax. The explanation lies in the fact that, marginally, investments financed by retained earnings do not generate a shareholder-level tax.

Notice that investors have an important timing option in that they may be able to sell their shares when their tax rates are lower than current rates. For example, if investors find themselves in an alternative minimum tax (AMT) position (a 21% marginal tax rate) when at other times they are in a 28% or even 33% marginal tax rate, they could find that the timing option is

²⁴Note that dividend income is investment income against which investment interest can be deducted. Hence, if t_{po} exceeds the implicit tax on tax-favored investments, borrowing to purchase such assets could reduce the taxpayer's tax burden to a lower level that includes implicit taxes. For elaboration, see Scholes and Wolfson (1990b).

²⁵ See, for example, King (1977) and Auerbach (1979).

quite valuable. By waiting to sell shares (and pay full tax at personal rates on the sale proceeds because their basis in the stock is zero) until they face the potential of paying the AMT, the investor would be better off by 10% (or $(1 - .21)/(1 - .28) - 1$).²⁶

Retained Earnings and Positive Net Present Value Projects

The analysis changes when positive net present value projects are available. In particular, a marginal round of shareholder-level tax cannot be avoided on the return above the competitive rate. To see this, suppose that a project is available that yields a return of Y per dollar invested, where Y exceeds the competitive rate R_b . If the project is financed through retained earnings, and the after-tax profit is distributed to shareholders a year later, the net return to the shareholder per dollar invested is:

Reinvest retained earnings
in the corporation and
pay a dividend later: $[1 + Y(1 - t_c)](1 - t_p)$.

If, on the other hand, a dividend is declared now, and the project is undertaken outside the corporation (say, through a shareholder-owned partnership or proprietorship), an immediate tax of t_p is levied per dollar of dividend. So t_p will have to be borrowed by the individual at rate R_b to finance the entire project. The net to the shareholders becomes:

Dividend now, followed
by investment of after-tax
dividend plus borrowing: $(1 - t_p)(1 + Y(1 - t_p)) + t_p [Y(1 - t_p) - R_b(1 - t_p)]$.

This result simplifies to $(1 + Y - t_p R_b)(1 - t_p)$. Comparing the after-tax accumulations in the two strategies reveals that an immediate dividend beats a reinvestment in the corporation by:

$$(t_c Y - t_p R_b) (1 - t_p).$$

Even if t_c were no larger than t_p , reinvestment of retained earnings in the corporation would subject the excess return on the project to one additional round of tax. With $t_c > t_p$, the advantage of a current dividend is increased.

²⁶Taxpayers that make large charitable contributions of property that has appreciated in value or hold investments in municipal bonds might find themselves subject to the AMT and not eligible for AMT credit in the future. The same is true of taxpayers with substantial sums of state income and property taxes and miscellaneous itemized deductions, none of which are tax-deductible in calculating the AMT. These taxpayers might want to accelerate the recognition of taxable income to the point where the next dollar of income is taxed at a 28% marginal rate currently and the next dollar of expense reduces taxes at the AMT rate of 21%.

The intuition behind this result is as follows. Where shareholders in an all-retained-earnings firm have a zero tax basis in their shares, they face a tax liability equal to t_p on every dollar of net asset value in the firm. Shareholders have an option of paying off the liability now by distributing corporate property to the owners or they can pay the tax later, with interest, by reinvesting the corporate income. In the latter case, the interest rate shareholders pay on this liability if corporate distributions are postponed is equal to the rate of return the corporation earns on its investments after paying corporate tax. If the corporation invests exclusively in zero net present value projects, it earns a competitive rate of return and shareholders are indifferent between paying their liability now or later. If the investments generate excess returns, however, shareholders would prefer to pay the tax liability now rather than paying interest at the high rate earned on the positive net present value projects.

The analysis above assumes that the positive net present value project can be managed no more effectively in the corporation than in a partnership that might be formed by shareholders to invest corporate distributions in favorable projects. If the positive net present value project is available only if undertaken within the corporation, then reinvestment of retained earnings in the corporation could prove to be the most efficient strategy.

Concluding Remarks

U.S. tax reforms in the 1980s have introduced significant tax disincentives to operate in the corporate form relative to organizational forms that impose no entity-level tax. We have witnessed two types of responses to this shifting of the costs across organizational forms:

- (1) direct conversion of regular corporations to organizational forms that avoid entity-level tax; and
- (2) changes in capital structures of corporations that allow them to avoid some of the entity-level tax by distributing corporate profits to capital suppliers in forms that are tax deductible.

In this paper, we examined the degree to which corporate restructuring can result in tax treatment, for income earned by corporations, that is similar to that achieved in partnerships. We found that the presence of the tax rule restrictions alone allows corporate projects to avoid double taxation on, at most, the competitive portion of their pretax return streams. Any economic rents earned by corporations face double taxation. This is true of returns to both human capital and physical capital, even where the latter is 100% debt-financed. Moreover, the presence of market frictions, which leads firms to

moderate their propensity to issue debt, causes part of the competitive return to corporate activity to be taxed twice.

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