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Payout Policy and Tax Deferral

HARRY DEANGELO*

ABSTRACT

Equilibrium in the standard finance model implies that value-maximizing firms make taxable equity payouts, even when deferral effectively allows complete tax escape. Since tax deferral and consumption deferral are inherently jointly supplied goods, an excess aggregate supply of future consumption would result if firms followed conventional wisdom and adopted low or zero payout policies to capture tax deferral benefits. The market provides incentives for firms to supply both taxable payouts and capital gains by overriding any tax deferral advantage, just as it provides incentives for equity financing by overriding the corporate tax advantage of debt in "Debt and Taxes."

THE "DIVIDEND PUZZLE" DISCUSSED in Black (1976), Miller (1986a), and virtually all corporate finance textbooks contains three distinct questions: i) Why do firms pay dividends instead of repurchase stock? ii) Why do firms simultaneously make taxable payouts and sell stock? iii) Why do firms make taxable payouts when reinvestment in nonnegative NPV projects would generate tax-deferred capital gains for stockholders?

The current paper addresses the latter question of why firms make taxable equity payouts despite the tax benefits of deferral. Tax deferral benefits are not only central to the question of optimal equity payouts, but also drive recent major advances in capital structure theory. For example, Miller's (1977) *Debt and Taxes* assumes a personal tax advantage to equity financing on the grounds that corporate retention provides stockholders with tax-deferred capital gains.¹ As Miller (1986a) notes, this line of attack leaves unexplained the prominent anomaly that firms make substantial taxable payouts and hence forego the tax benefits of deferral.

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¹ Miller (1977, p. 266) quotes from the 1958 MM article to establish that corporate retention generates tax-advantaged equity returns: "A debt free company, by contrast, can reinvest in the business all of its (smaller) net income and to this extent subject the owners only to the low capital gains rate . . ." For discussion of retention and tax deferral benefits, see Miller (1977, p. 270), Miller (1986a, p. S453), and Walter (1967, p. 113).

This paper argues that equilibrium in the standard finance model leads value-maximizing firms to make taxable equity payouts, since any tax deferral advantage will be fully “priced-out” and overridden, just as the corporate tax advantage of debt is overridden in *Debt and Taxes*. Taxable payouts will be made in equilibrium even when deferral yields the maximal advantage of complete tax escape, and firms can avoid immediate payout taxes through unlimited reinvestment in zero NPV projects. The latter conditions make it clear that the incentive for taxable equity payouts is *not* driven by an assumption that corporate resources should simply be channeled to superior external investment opportunities.

The general point is that adoption of payout policies that forego the tax benefits of deferral is implied by equilibrium in the standard finance model. The current analysis employs no “trick” assumptions and, in fact, no new assumptions beyond those conventionally employed in the literature. It differs from prior work by recognizing that tax deferral and consumption deferral are (inherently and unavoidably) jointly supplied goods. Thus, if firms adopt low payout policies to capture tax deferral benefits for stockholders, the market will be flooded with an excess supply of future consumption. Consequently, exactly as in *Debt and Taxes*, market prices will override the tax benefits of deferral and induce firms in the aggregate to supply the market-clearing positive quantities of payouts and capital gains.²

These equilibrium supply responses are required even when individuals can borrow or lend on personal account to rearrange consumption patterns. Since such transactions conserve the social total consumption flow at each date, standard homemade financing arguments do *not* generalize to the aggregate level. Attempts to extrapolate such arguments from analysis of one firm’s payout policy to aggregate payout levels fail due to a fallacy of composition.

The paper is organized into discussions of basic intuition (Section I), generalizations and qualifications (Section II), alternative views of the tax penalty on equity payouts (Section III), and a brief summary (Section IV).

I. The Basic Intuition

Consider a three-date variant of the standard certainty model in which firms raise equity at $t = 0$ from individuals to finance investments that produce consumption claims (dollars) at $t = 1$. Each firm’s investment return at $t = 1$ is subject to corporate income tax, and the resulting after-tax cash flow can either be paid out to stockholders or reinvested to produce consumption claims at $t = 2$. Equity payouts at $t = 1$ are subject to personal income tax, but retention triggers no tax liability, since it provides returns at $t = 1$ as unrealized capital gains. Each firm’s investment at $t = 1$ yields cash flows at

² In Miller’s analysis, there will be an excess debt supply if firms attempt to capture the corporate tax advantage of borrowing, and so market prices override that advantage until firms supply the appropriate aggregate debt-equity mix. Here, equilibrium prices adjust so that, taking into account tax deferral benefits and all other consumption sources, firms in the aggregate supply the appropriate mix of taxable payouts and capital gains.

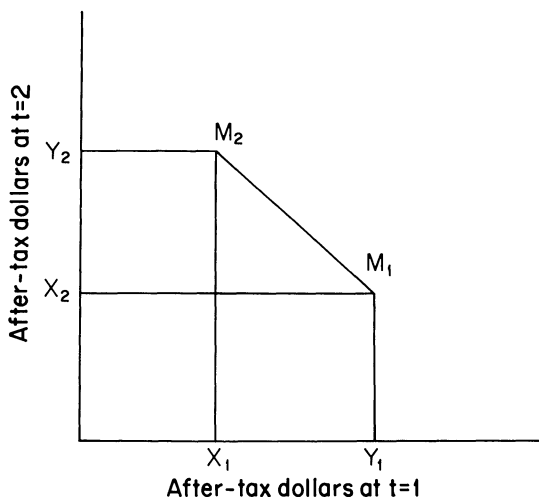


Figure 1. Social investment-consumption opportunity set. X_t = consumption supply at date t ($= 1, 2$) from all sources other than corporate equity payouts. Y_t = maximum social consumption at date t ($= 1, 2$) if all corporate resources are dedicated to generating consumption at that date. M_2 = complete retention at $t = 1$ of all corporate resources to generate maximum possible tax deferral (and maximum social consumption at $t = 2$). M_1 = complete taxable payout at $t = 1$ of all corporate resources to generate the maximum possible consumption at that date. M_2M_1 = frontier of possible equilibrium aggregate investment and consumption payouts. Its slope reflects firms' abilities to transform after-tax consumption over time and is a function of technological parameters, corporate tax rates, and the personal tax rates on payouts at $t = 1$ and 2. For simplicity, date $t = 0$ is suppressed so the frontier does not show the transformation rates across dates $t = 0$ and 1 or $t = 0$ and 2.

$t = 2$ which, depending on the tax regime under study, may or may not be taxed. For simplicity, let all individuals face constant personal tax rates, τ_{p1} and τ_{p2} on payouts received at $t = 1$ and 2 and a zero capital gains tax rate.

Let all firms have identical constant returns technologies so that, in equilibrium, each firm's chosen investment policy must have zero NPV as must all scale expansions or contractions. This assumption is not necessary and serves only to clarify that taxable payouts are not made here simply because the only alternative is reinvestment in negative NPV projects (Brennan (1971)). For any given firm, let I_0 and I_1 be the amounts invested at $t = 0$ and 1 to yield productive returns of $\mu_1 I_0$ and $\mu_2 I_1$ at $t = 1$ and 2, with μ_1 and μ_2 sufficiently large that storage does not dominate investment. Given corporate tax rates τ_{c1} and τ_{c2} for $t = 1$ and 2, the corresponding after-corporate tax cash flows are $(1 - \tau_{c1})\mu_1 I_0$ and $(1 - \tau_{c2})\mu_2 I_1$.

Figure 1 summarizes social investment-consumption opportunities, with a third axis representing date $t = 0$ suppressed to focus on the decision to make taxable payouts at $t = 1$. Here, X_1 and X_2 represent the aggregate consumption supplies (after all taxes) at $t = 1$ and 2 from sources *other* than corporate equity (e.g., wages, partnership returns, etc.). We impose no restriction on the relative magnitude of X_1 and X_2 nor on their size relative to equity

payouts. (The latter point is important because substitute consumption sources are much greater empirically than contemporaneous payouts to equity.)

The line segment M_2M_1 represents the efficient frontier of aggregate corporate investment and consumption payout decisions, i.e., the set of possible market clearing decisions. Its slope reflects the rate at which firms can transform after-tax consumption flows over time and is a function of technological parameters, corporate tax rates, and the personal tax rates that apply to payouts at dates $t = 1$ and 2 . When the date $t = 0$ axis is added, the efficient frontier is a plane, with slopes from 0 to 1 and from 0 to 2 , reflecting firms' abilities to transform consumption over each time interval. In the discussion of equations (1) to (3) below, we give precise specification of these transformation rates for after-tax consumption flows.

Along the frontier, M_2 represents retention of all corporate resources (reinvestment) at $t = 1$, with aggregate consumption of X_1 at $t = 1$ and Y_2 at $t = 2$. Similarly, M_1 represents payout at $t = 1$ of all corporate resources, with aggregate consumption of Y_1 at $t = 1$ and X_2 at $t = 2$. Intermediate points on the M_2M_1 frontier represent payout of some corporate resources for consumption at $t = 1$, with remaining resources reinvested to generate consumption at $t = 2$.

The conventional view of payout policy and tax deferral benefits implicitly assumes that equilibrium occurs at the M_2 corner solution. The presumption is that firms have incentives to defer payouts from $t = 1$ until $t = 2$ (or later given a longer model horizon). For example, Miller (1977, p. 270) cites conventional wisdom as indicating that 10 years of deferral make capital gains essentially tax-exempt which, in turn, supports his assumption that the personal tax rate on equity is effectively zero. The general point is that firms are widely viewed as having incentives to defer taxable payouts, i.e., to move the economy to M_2 in the three-date world of Figure 1.

The problem with this view is that one cannot assume that M_2 is the equilibrium without also assuming that market prices for time-dated consumption claims sustain this corner solution supply response as the equilibrium. But there is no *a priori* reason to assume that market prices will sustain this or any other corner solution as the equilibrium.

More importantly, economic forces will actually be at work to adjust relative prices to move firms' aggregate supply away from M_2 , i.e., market equilibrium will generally not occur at the M_2 corner. The ultimate market clearing point along the M_2M_1 frontier will reflect society's demand for current ($t = 1$) versus future ($t = 2$) consumption flows. Absent restrictive assumptions on preferences or consumption supplies (discussed below), market equilibrium will occur at an interior point somewhere between M_2 and M_1 , with approximately balanced aggregate consumption flows across dates $t = 1$ and 2 . At this interior equilibrium, firms both supply taxable payouts at $t = 1$ to service immediate consumption demand and reinvest funds to generate current capital gains which service the demand for future consumption. (Note that this interior equilibrium generally includes positive and

potentially quite large quantities of consumption from sources other than corporate equity—see Section II. B.)

This equilibrium is brought about because market prices of current and future after-tax consumption claims adjust until firms' resulting aggregate supplies place the economy at the appropriate interior point along the frontier. When firms have identical constant returns technologies, we can solve explicitly for (i) P_{01} and P_{02} , the equilibrium prices at $t = 0$ of after-tax consumption claims delivered at $t = 1$ and 2 , respectively, and for (ii) P_{12} , the implied spot price at $t = 1$ of after-tax consumption delivered at $t = 2$:³

$$P_{01} = 1 / [(1 - \tau_{p1})(1 - \tau_{c1})\mu_1] \quad (1)$$

$$P_{02} = 1 / [(1 - \tau_{p2})(1 - \tau_{c2})\mu_2(1 - \tau_{c1})\mu_1] \quad (2)$$

$$P_{12} = P_{02} / P_{01} = (1 - \tau_{p1}) / [(1 - \tau_{p2})(1 - \tau_{c2})\mu_2] \quad (3)$$

The intuition why equations (1) to (3) represent equilibrium prices is given by the following general principle (which holds for constant or diminishing returns technologies, in the presence or absence of agency/bankruptcy costs, etc.):

Market prices for time-dated consumption claims must compensate firms for the tax penalties (and all other costs) associated with generating the *marginal* dollar paid out to service aggregate *total* consumption demand at each date.

The foundation for this pricing condition is Miller's (1977) logic: equilibrium prices are set so that each firm's incentives at the *margin* are consistent with and generate the unique aggregate supplies that satisfy *total* demand (for debt and equity in *Debt and Taxes*).

In the current analysis, equation (1) says that the price at $t = 0$ per unit of $t = 1$ consumption must leave firms indifferent at the margin to an investment of one dollar at $t = 0$ that delivers after-tax consumption of $(1 - \tau_{p1})(1 - \tau_{c1})\mu_1$ at $t = 1$. Similarly, (2) requires the price of date $t = 2$ consumption to be set so that firms are indifferent to the marginal dollar invested at $t = 0$ that generates $(1 - \tau_{c1})\mu_1$ of internal funds at $t = 1$ which can be reinvested to yield after-tax consumption of $(1 - \tau_{p2})(1 - \tau_{c2})\mu_2(1 - \tau_{c1})\mu_1$ at $t = 2$.⁴ And (3) simply confirms that firms are indifferent at the margin

³ Given constant returns technologies, market prices are determined by a "zero profit" condition that depends only on technological parameters and tax rates (Fama and Laffer (1972)). Given diminishing returns, the frontier is nonlinear, and equilibrium prices therefore also depend on the particular details of aggregate demand for current versus future consumption.

⁴ Internal funds are the relevant source of capital at $t = 1$, since (i) firms with constant returns technologies can always invest a bit more at $t = 0$ (without loss of profitability) to provide the desired internal funds at $t = 1$, and therefore (ii) it makes no sense to pay extra taxes by raising external capital at $t = 1$. With diminishing returns, external capital will be raised at $t = 1$ by firms with especially profitable investments at $t = 1$ but poor opportunities at $t = 0$ to make investments that will yield internal funds at $t = 1$. Masulis and Trueman (1988) show that diminishing returns imply that taxable payouts will eventually dominate reinvestment in low marginal return projects.

between paying out one dollar of internally generated funds at $t = 1$ to yield immediate consumption of $(1 - \tau_{p1})$ after personal taxes and reinvesting that dollar to yield an after-tax consumption flow of $(1 - \tau_{p2})(1 - \tau_{c2})\mu_2$ at $t = 2$.

Consumption claim prices adjust to override the benefits of tax deferral because tax deferral and consumption deferral are jointly supplied goods. A given firm could attempt to capture the deferral tax saving by reinvesting corporate funds at $t = 1$. But if the deferral incentive is present for any one firm, it is present for all firms, and the resulting aggregate supply will place the economy at the disequilibrium M_2 corner.

Consequently, just as in Miller's (1977) analysis, if firms in the aggregate attempt to capture the deferral tax saving, demand side forces will adjust prices to induce a reduction in the supply of future relative to immediate consumption. Graphically, if firms in the aggregate place the economy at M_2 , the price of future relative to current after-tax consumption claims will fall until firms adjust their supplies of payouts and capital gains to the appropriate (market-clearing) point in the interior of the M_2M_1 frontier. (Immediate payouts contribute to aggregate consumption at $t = 1$, whereas capital gains at $t = 1$ contribute to aggregate consumption at $t = 2$.)

The deferral tax advantage is not sufficient to imply that taxable payouts are dominated because aggregate payouts and capital gains are imperfect substitutes with strictly determinate equilibrium quantities.⁵ Hence, equilibrium in the fundamental consumption claim markets dictates the clearing conditions for the derivative markets in common stock: aggregate payouts and capital gains must be tailored to the desired intertemporal pattern of consumption flows.

The aggregate payout implications here differ significantly from those of Miller and Modigliani (1961). Society's *gross* payout is indeterminate in the MM no-tax setting but is strictly determinate given personal taxes.⁶ In the MM world, aggregate gross payouts are indeterminate because offsetting changes in equity infusions can costlessly "undo" payout changes so that all consumption and investment decisions are unchanged. Here, taxable payouts financed by equity infusions generate tax liabilities that can and will be avoided by reducing *both* infusions and payouts until the aggregate payout is just sufficient to service consumption demand.

Another difference from MM analysis is that personal taxes imply an endogenous dependency between corporate payout and investment policy. Although often claimed otherwise, it is *not* true that a theoretically correct payout analysis must hold investment policy fixed. For MM no-tax analysis, one can hold investment policy fixed to avoid artificially injecting a link

⁵ In *Debt and Taxes*, differential personal taxes make debt and equity imperfect substitutes, and so their equilibrium aggregate quantities are strictly determinate. Miller's logic drives the equilibrium here because aggregate payouts and capital gains are imperfect substitutes, with the former contributing to immediate consumption and the latter to future consumption.

⁶ Society's *net* payout (i.e., resources delivered to individuals net of firms' investment) is of course determinate in the MM world (and here) and must be tailored to aggregate consumption demand. Since this point is obvious from basic principles, MM and virtually the entire dividends literature are concerned with whether *gross* payouts matter.

between operating and financial policies. With personal taxes, this assumption can actually induce errors in the analysis by artificially removing the endogenous relation between investment and payout policies that characterizes the firm's globally value-maximizing decisions.⁷

II. Generalizations and Qualifications

A. Personal Borrowing to Generate Homemade Consumption Flows

When one individual's exchange opportunities are viewed in isolation, standard MM reasoning indicates that homemade financial policy adjustments allow that individual to obtain immediate consumption by borrowing against shares that yield current capital gains. A value-maximizing firm seemingly should adopt a zero payout policy (reinvest at constant returns) to avoid the immediate payout tax and to capture the benefits of tax deferral. Given constant returns technologies, firms have unlimited opportunities to reinvest corporate retentions in zero NPV projects.⁸ By deferring immediate payouts, stockholders' taxes would be lower overall, and any individual who desires immediate consumption could simply borrow from others.

The homemade financing argument legitimately applies to one firm's decisions but attempts to extrapolate it to aggregate level analysis suffer from a fallacy of composition. If *all* firms adopted low payout policies, some individuals would be unable to complete their desired homemade portfolio adjustments because there would be an inadequate aggregate supply of immediate consumption and an excess supply of current capital gains (i.e., an excess supply of future consumption). In other words, not everyone will be able to satisfactorily rearrange portfolios on personal account. This supply/demand imbalance will lead consumption claim prices to adjust until firms have supplied the appropriate (market-clearing) quantities of payouts at each date.

Since exchange conserves the social total consumption flow at each date, trades among individuals—including borrowing or exchanges of securities for immediate consumption—do not affect aggregate consumption supplies. And, unless the appropriate social totals are supplied at each date, some individuals cannot complete the trades required to obtain their desired consumption bundles. It follows that homemade financing arguments do not generalize from the firm level to aggregate analysis and therefore do not overturn the equilibrium requirement of positive taxable payouts.

⁷ The literature contains many tax-inclusive analyses of the relation between dividend and investment policy (see Walter (1967) and Stapleton (1972) for two early treatments). The current analysis differs from prior studies by (i) deriving the endogenous relation between payout and investment policies (rather than assuming such a link) and (ii) establishing the equilibrium requirement that market prices must adjust to induce firms to make positive taxable payouts despite the tax advantages of deferral.

⁸ The constant returns assumption is not necessary—it only serves to clarify that the current argument for taxable payouts is *not* driven by an assumption that investors' external investment opportunities are more profitable than those available internally. Constant returns imply that firms have unlimited opportunities to invest internally in zero NPV investments.

B. When Will Deferral Strictly Dominate Taxable Payouts?

Equilibrium equity payout quantities depend on the particular quantities (and supply elasticities) of substitute consumption sources. For example, if future consumption substitutes are plentiful and current consumption substitutes are scarce, there will be a correspondingly large demand for immediate equity payouts. (In Figure 1, let X_2 be large relative to X_1 .) Corporate resources will mostly be paid out in the current period and there will be only modest levels of retention to generate current capital gains.

Conversely, if society has a relatively small supply of substitute future consumption sources, there will be a relatively large demand for current capital appreciation. In equilibrium, firms will make relatively small taxable payouts in the current period, and future payouts will be larger to offset the scarcity of substitute consumption sources at that time. If other sources of future consumption become sufficiently scarce, current payouts will be driven to zero, and firms will use the retained resources to produce additional future consumption. Thus, retention will dominate current payouts, given specialized supply conditions in which corporate resources are required to overcome an acute social shortage of future consumption.

C. Alternative Payout Methods

Consistent with the literature, the current argument assumes that firms employ equity financing and analyzes equity payout policy. This approach assumes that firms cannot issue debt to circumvent corporate taxes and that payout taxes cannot be avoided by using other contemporaneous distribution methods (see Brennan (1970)). These latter assumptions can be viewed as approximating a world in which agency and bankruptcy costs limit debt financing, and the tax authorities' diligence prevents wholesale substitution from equity payouts into untaxed or less heavily taxed distribution channels.

Thus, the current argument generalizes to situations in which firms can use other distribution methods to pay out resources. The key assumption (for the current and all prior studies) is that all payout channels involve costs of their own which, at the margin, are sufficiently large to imply that they do not strictly dominate corporate equity financing. There is currently little disagreement that personal tax differentials plus bankruptcy/agency costs can reasonably explain why firms are not leveraged to the hilt.

However, there is little agreement why dividends are not dominated by stock repurchases.⁹ Moreover, under the conventional analysis of tax deferral

⁹ A related question is why firms do not make cash payouts by buying other firms' securities from investors. Like stock repurchases, such transactions yield cash payouts at capital gains tax rates. They are inferior to stock repurchases because they typically incur additional corporate taxes when the firm receives income from securities. Miller (1986a, section III) argues that these additional taxes (and potential IRS penalties) plausibly explain why security accumulations are not widely employed. In any case, the logically prior question is why firms do not use stock repurchases widely since they entail fewer rounds of taxation and hence are strictly more attractive than security accumulations.

benefits, it is difficult to explain taxable payouts of any form, including stock repurchase. Accordingly, the current argument is best viewed as helping to explain why firms make taxable equity payouts in the face of tax deferral benefits but not as addressing firms' choice of payout method.

D. Equity Payouts and Substitute Consumption Sources

There is no presumption here that equity payouts are the primary method for adjusting consumption supplies. The relevant equilibrium condition is that the supplies of equity payouts, wages, interest on corporate debt, and all other *contemporaneous* consumption sources must adjust until all are equally costly at the *margin*, and total supply satisfies demand. Since marginal costs must be simultaneously equated, no single consumption source determines market clearing prices. Moreover, absent additional assumptions on the shape of marginal cost functions, there is no theoretical basis to predict that the quantity of any given consumption source will be particularly large or small in equilibrium.

The analogy with Miller's (1977) analysis is again useful. Miller's equilibrium neither assumes nor predicts that aggregate corporate interest payments are large relative to interest on U.S. government securities, mortgage debt, etc. It simply assumes that, at the *margin*, corporate interest is one cost-effective vehicle for servicing the demand for taxable investment returns. Similarly, the current argument assumes that all methods of generating consumption involve costs and that, at the *margin*, equity payouts are not strictly dominated by wages, partnership returns, interest, etc.

III. Alternative Views of the Tax Penalty on Equity Payouts

A. Equity Payouts: Income Tax versus Consumption Tax Perspectives

The current argument is intimately linked to Miller and Scholes' (1978) insight that the income tax on payouts has elements of a consumption tax, i.e., of an unavoidable, contemporaneous cost that must be incurred in the same period individuals consume resources produced by firms. Combining this observation with Miller's (1977) logic, it follows that equilibrium prices must override the (consumption) tax penalty so that firms supply sufficient payouts to clear all markets.

Accordingly, equation (1) indicates that the price of date $t = 1$ consumption is adjusted for the personal tax that must be paid on that period's payout. Similarly, (2) reveals that the equilibrium price of date $t = 2$ consumption adjusts to reflect only *one* round of personal taxation, i.e., the payout tax that cannot be avoided at $t = 2$ when consumption takes place.

Under the usual income tax interpretation, individuals who purchase (at $t = 0$) consumption claims for delivery at $t = 2$ would do so at terms reflecting *two* rounds of personal taxation—one on the payout received and reinvested at $t = 1$ and another on the resulting payout received at $t = 2$. By this

view, firm value is reduced by taxable payouts at $t = 1$ with the implication that a low immediate payout is optimal. The current analysis establishes that the income tax interpretation is inappropriate because firms adjust the aggregate supply of payouts at $t = 1$ to avoid unnecessary taxable payouts at that time.

The appropriate view is that low payout policies are desirable only insofar as they avoid taxes on payouts that otherwise would have been channeled back into corporate investment. Retention is undesirable beyond the point where it generates an excess supply of future consumption. Thus, taxable payouts will *not* be eliminated in equilibrium because supply adjustments will not allow avoidance of personal taxes on payouts that service consumption demand. The tax on payouts that service consumption demand can be avoided *only* by foregoing consumption itself.

B. Deferral and Tax Minimization

Minimization of personal taxes is widely viewed as dictating that firms should defer equity payouts, since postponement makes stockholder returns essentially tax-exempt in present value terms.

This view ignores the unavoidable tie-in between tax deferral and consumption deferral: deferred tax liabilities are generated by corporate retention which inherently supplies deferred consumption. And since tax deferral and consumption deferral are supplied jointly, consumption claim prices incorporate and completely override the tax benefit of deferral.

This point can be seen most clearly in the extreme case in which deferral yields the maximum possible tax savings. Specifically, assume that payout deferral at $t = 1$ leads to complete escape of taxation, i.e., let the $t = 2$ tax rates approach zero so that each dollar retained by the firm (and reinvested at constant returns) avoids the personal tax τ_{p1} that would be assessed on payouts at $t = 1$ and generates a fully tax-exempt return at $t = 2$. The present value of stockholders' tax liabilities will clearly be driven to zero simply through deferral of payouts from date $t = 1$ until $t = 2$.

The conventional view is that firms should cut payouts to zero at $t = 1$ to capture the deferral tax savings for stockholders. But if all firms respond this way, there will be inadequate payouts to service date $t = 1$ aggregate demand and an excess supply of date $t = 2$ consumption. The resultant supply/demand imbalance will set market forces into motion to undercut the value of tax deferral and thereby to encourage taxable payouts at $t = 1$.

The equilibrating price adjustment is evident from equation (2): as $t = 2$ tax rates approach zero, the market price of deferred (after-tax) consumption will fall correspondingly to *perfectly* offset the added tax benefit from deferral. In other words, the reduction in the market price of date $t = 2$ consumption generated by society's demand to spread consumption over time will completely override any deferral tax benefits. The net result is that immediate taxable payouts are not strictly dominated in equilibrium, even when deferral yields the maximal advantage of complete escape of taxation.

C. The "Tax Capitalization" View

The "tax capitalization" literature on dividend policy argues that the stock market will penalize corporate retention by discounting the firm's share price to reflect the capitalized value of tax liabilities on future payouts.¹⁰ The central finding of this literature is that, if payout timing leaves the capitalized value of taxes unchanged, there is effectively no penalty on immediate payouts.

The current analysis, in contrast, implies an incentive for immediate taxable payouts regardless of the present value of tax liabilities and holds even when there are *zero* future taxes to be capitalized into today's share price.¹¹ The current argument yields a more general rationale for taxable payouts because it is driven simply by the standard assumption that individuals desire to spread (aggregate) consumption over time. The latter desire, of course, exists independent of the tax liabilities on current versus future payouts, or the capitalized value of those future taxes.

IV. Summary

This paper argues that equilibrium in the standard finance model implies that value-maximizing firms make taxable equity payouts regardless of the magnitude of tax deferral benefits. Market equilibrium does *not* indicate that firms should adopt low or zero payout policies simply to capture tax deferral benefits for stockholders. Rather, the equilibrium incentive for taxable payouts exists even when deferral effectively allows complete tax escape and corporations have unlimited opportunities to reinvest in zero NPV projects.

Since tax deferral and consumption deferral are inherently jointly supplied goods, an excess supply of future consumption would result if firms adopted low payout policies to capture the tax benefits of deferral. Miller's (1977) logic therefore dictates that equilibrium consumption claim prices must adjust to override the tax benefits of deferral so that firms in the aggregate supply the appropriate mix of taxable payouts and capital gains. This equilibrium holds even when individuals can rearrange their consumption patterns through personal borrowing or lending, since familiar homemade financing arguments do not generalize to aggregate level analysis.

The argument applies to tax deferral mechanisms broadly and not just to equity payout policy. The same intuition holds for tax deferral strategies

¹⁰ See Auerbach (1979) and Bradford (1981) for early contributions and Poterba and Summers (1985, p. 237–240) for a recent synthesis. While not all papers in this literature explicitly give the tax capitalization argument, it is generally accepted as the reason why firms make taxable payouts in these models.

¹¹ Poterba and Summers' (1985, p. 239) tax capitalization analysis considers the case in which payout deferral generates returns that completely escape taxation. Their conclusion that firms will go to great lengths to avoid immediate payouts depends on their implicit assumption that consumption claim prices will not adjust to override the tax liability on immediate payouts.

involving corporations, partnerships, proprietorships, or intermediaries: to generate the appropriate aggregate mix of current and future consumption, market forces will undercut the value of the tax deferral component of returns on all investments offering tax savings from delayed payoffs.

Finally, the current argument is closely related to Miller's (1986b) observation that an inadequate analysis of dividend supply lies at the heart of the widespread misperception that the optimal level of dividends is zero in a world with tax penalties on cash payouts. Miller derives an upward-sloping dividend supply curve and shows that *if* the relative market price for dividends is high enough, a firm would find it optimal to supply taxable payouts despite the tax advantage to capital gains. The current paper takes the next step and establishes that the standard finance model itself implies that the relative price *will* be high enough: general equilibrium requires that prices adjust so that firms have incentives to supply taxable payouts.

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