

ON THE "TRADITIONAL" and "NEW" VIEWS OF DIVIDEND TAXATION**

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ABSTRACT

The wait for the forthcoming Treasury report on corporate and individual tax integration has increased interest in the question of whether the "traditional" view or the "new" view of dividend taxes more accurately describes their effects. Unfortunately, despite the fact that the "new" view is actually nearly twenty years old, this issue—which is critical both to evaluating the need for integration and to designing integration schemes—is still unresolved in the literature. This paper summarizes the debate, focusing on the theoretical foundations of both the traditional and new views and on recent empirical tests that distinguish between the competing views.

ONE effect of the long wait for the forthcoming Treasury report on corporate and individual tax integration has been an increase in interest in the question of whether the "traditional" or the "new" view of dividend taxes describes their effects more accurately.¹ An understanding of this issue is critical both to evaluating the need for corporate/individual tax integration and to designing any specific integration schemes. For example, Treasury officials Gerardi, Graetz, and Rosen (1990, p. 311) note that the "two very different views of the role of taxes on dividend payout decisions have quite different policy implications for evaluating the current tax system and integration alternatives."

The basic issue that is the focus of the new view/traditional view debate is the circumstances under which income taxation of dividends at the individual level has an impact on marginal investments financed with equity.² There is general agreement that dividend taxes reduce the return to investment financed with new share issues; it is thus clear that dividend

taxation at the individual level, when coupled with business taxation at the corporate level, results in double taxation of the income attributable to such investment. The disagreement centers on the validity of the traditional view that dividend taxation at the individual level also results in double taxation of the income attributable to investments financed with retained earnings. In marked contrast to the traditional view, the new view of dividend taxation implies that such taxes have no effect on marginal investments financed with retained earnings.³ Since the vast majority of equity finance typically takes the form of retained earnings, this view has dramatic effects on estimates of the effects of taxation on investment decisions as well as on the evaluation of tax reform proposals.

For example, suppose that the new view is correct and that most equity-financed investments are financed with retained earnings. In this case, the primary rationale for corporate/individual tax integration—the elimination of double taxation of equity income—becomes significantly weaker. In particular, to the extent that interest income is taxed at the individual level, an unintegrated tax system does not greatly distort decisions regarding the choice between debt and retained earnings finance; indeed, under certain circumstances, there is no distortion if the corporate tax rate equals the individual tax rate on interest income.⁴ Similarly, the corporate tax system is roughly neutral with respect to the decision to invest in corporations or in non-corporate enterprises, and has no effects on dividend payout decisions. Thus, under the new view, dividend taxation is irrelevant for decisions regarding investments financed with retained earnings, and affects only investments financed with new share issues; accordingly, the primary effect of integration would be to eliminate a significant tax disincentive

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against equity finance in the form of new share issues. Although such a tax disincentive is not desirable, especially since it is likely to have a disproportionately large negative impact on new and emerging firms, it is not nearly as troublesome as an economy-wide disincentive to equity finance.

Another important policy implication of the new view (noted above and explained in detail below) is that future dividend taxes are capitalized in share prices. This in turn implies that any integration scheme that reduces or eliminates dividend taxes—or allows firms a partial or full deduction for dividends paid—would result in huge windfall gains to existing shareholders. Indeed, concerns about such windfalls led Andrews (1979) to propose an integration scheme that would apply only to the issuance of new shares; although this approach would in principle eliminate the reform-induced windfalls, its administrative feasibility is open to question.⁵ Thus, the main implication of the new view of dividend taxation for corporate/individual tax integration is that such a reform is generally undesirable in that it would result in relatively small efficiency gains coupled with very large windfall gains to existing shareholders (and thus large losses of tax revenue to the government).

In addition, the distinction between the new and traditional views of dividend taxes is also important in a host of policy areas not directly related to corporate/individual tax integration. For example, recent proposals to reinstate the preferential rate for capital gains are at least partially motivated by a desire to reduce the taxation of the return to equity-financed investment; under the new view, this consideration is rather unimportant. In addition, many studies have noted that marginal effective tax rates on capital income and the associated efficiency losses are much larger under the traditional view than under the new view; for a recent example see Gravelle (1989). Finally, Fullerton and Mackie (1989) argue that under the traditional view the tax reforms enacted in the U.S. during the 1980s can be interpreted as progressive incremental

movements toward greater economic efficiency in resource allocation, but that under the new view these recent tax changes represent inconsistent policy reversals.

Unfortunately, the question of whether the traditional view or the new view more accurately describes the effects of dividend taxation is far from resolved, despite the importance of the policy issues it raises—and despite the fact that the “new view” is actually nearly twenty years old. Indeed, this question is still one of the more controversial ones in public finance. In light of the currency of this issue, as well as the length of time the debate has raged, it may be useful to provide a brief review of the literature in this area.

Accordingly, this paper provides a summary of the new view/traditional view debate. It begins with an exposition of the theoretical foundations of the new view, and then summarizes the basic tenets of the competing traditional view; this discussion includes simple derivations of the marginal effective tax rates on various types of investments under the alternative views. The paper then provides a discussion of recent empirical tests of these competing views of the effects of dividend taxation. A concluding section summarizes the results; it also comments on some promising directions for future research.

The New View of Dividend Taxation

As noted above, the most important implication of the new view of dividend taxation is that such taxes have no effect on marginal investments financed with retained earnings. The basic rationale underlying the new view is as follows. Theoretical models of the new view share the common critical assumption that earnings on equity-financed investments can ultimately be distributed to shareholders only in the form of taxable dividends. In particular, alternative “distributions,” such as share repurchases, are precluded by assumption.⁶ Thus equity is “trapped” within the corporation in the sense that shareholders can receive distributions of returns to their equity investments only by paying an individual level tax on such

distributions; accordingly, the new view is also sometimes referred to as the "trapped equity" view.

The implications of this assumption can be seen by considering the following highly stylized model of a firm's investment decisions, which is a simplified version of many of the models found in the new view literature. Specifically, suppose that g is the before-tax return to an investment (net of depreciation), and that the investment is fully taxed at the business level at the statutory tax rate t_B . Suppose further that dividends are taxed at the individual tax rate t_I , and that capital gains are effectively taxed at an annual rate t_G .⁷ If the firm issues new shares and then pays the return out in the form of taxable dividends, the shareholder receives $g(1 - t_B)(1 - t_I)$, and the effective tax rate on the income is

$$T_{NS} = [g - g(1 - t_B)(1 - t_I)]/g \\ = t_B + t_I(1 - t_B); \quad (1)$$

that is, investment financed with equity in the form of new share issues is taxed at first at the business level, and the remaining income is then taxed a second time at the individual level.

Suppose that instead of distributing the returns to an investment financed with new share issues as taxable dividends, the refunds are retained within the corporation and reinvested—that is, new investment is financed with retained earnings. From the perspective of the shareholder, one dollar of foregone after-tax dividends—the opportunity cost of the investment—gives rise to an investment at the firm level of $(1 - T_G)/(1 - t_I)$. That is, the individual avoids the taxation of dividends, so that "saving" one dollar by avoiding the dividend distribution implies that the firm has $1/(1 - t_I)$ to invest; however, retained earnings of this amount give rise to a capital gain of an equal amount that is effectively subject to tax at the rate t_G .

Suppose further that the investment financed with retained earnings also has a before-tax, net-of-depreciation return g , and that these returns are then paid out

as taxable dividends. The shareholder receives $g[(1 - t_G)/(1 - t_I)](1 - t_B)(1 - t_I)$; that is, the investment of $(1 - t_G)/(1 - t_I)$ earns a before-tax return of g , which is subject to the corporate level tax and the individual tax when distributed. Note that the $(1 - t_I)$ terms cancel in this expression, as the taxation of the distributed dividends is offset by the advantage of deferring the dividend tax on the original investment (the earnings from the initial investment that was financed with new share issues). Thus, the net return is $g(1 - t_G)(1 - t_B)$, which implies an effective tax rate of

$$T_{RE} = [g - g(1 - t_G)(1 - t_B)]/g \\ = t_B + t_G(1 - t_B), \quad (2)$$

which in turn gives the new view result—the effective rate of taxation of investment financed with retained earnings is independent of the individual tax rate on dividends t_I . If capital gains are untaxed, this analysis implies that investments financed with retained earnings are subject only to a business level tax. More generally, as long as capital gains are taxed at a lower effective annual rate than are dividends ($t_G < t_I$), investment financed with retained earnings is subject to a lower tax burden than is investment financed with new share issues.

The intuition underlying this result is perhaps best understood by drawing an analogy with the treatment of saving under the cash flow version of a consumption tax. A cash flow tax allows a current deduction for all saving, coupled with full taxation of both the returns to the investment and the amount of the original investment upon withdrawal. It is well-known that cash flow treatment effectively exempts the return to saving from taxation; that is, under the appropriate circumstances, the benefit of the deferral of tax due to the deduction for saving exactly offsets the cost of subsequent taxation of interest and principal.⁸

Consider then a situation in which the firm forgoes dividends and instead retains the earnings and invests them, with the returns to this investment as well as

the original amount of the investment (the retained earnings) ultimately distributed as taxable dividends. In this case, the individual effectively receives a deduction for "saving" done in his behalf by the corporation at the time the earnings are retained, since these earnings are not distributed and thus are not included in the individual tax base. However, whenever the returns to the investment financed with retained earnings, as well as the original amount of the retained earnings, are distributed, they are subject to full taxation.

Such treatment of investment financed with retained earnings is thus analogous to the treatment of saving under a cash flow consumption tax. This in turn implies that the returns to investment financed with retained earnings are effectively tax-exempt; that is, the present value of the deferral of tax that would have been paid had the dividends been distributed is equal in present value to the tax ultimately paid when the original dividends and the subsequent earnings on those dividends are distributed. In other words, the deferral of the individual level tax on dividends obtained by retaining earnings effectively offsets the future dividend tax liability attributable to the investment financed by such earnings; accordingly, in present value terms, dividend taxes do not increase the tax burden on investment financed with retained earnings.

The new view of dividend taxation thus implies that as long as $t_G < t_I$, retained earnings are a less costly form of finance than are new share issues. This has several important (and potentially testable) implications. The most important concerns what has become known as "Tobin's q "—the ratio of the market value of a firm to the replacement cost of its capital assets. In the absence of any constraints, one would expect the equilibrium value of q to be one if firms act to maximize shareholder value. Specifically, if $q > 1$, firms could increase shareholder value simply by issuing new shares; analogously, if $q < 1$, firms could increase shareholder value by repurchasing shares.

However, if firms are precluded from

repurchasing shares, as assumed in the derivation of the new view, $q < 1$ becomes possible. Indeed, under the new view, the lower bound for q becomes $(1 - t_I)/(1 - t_G)$. To see this, note that the marginal value to the shareholder of a dollar of earnings paid out as dividends is $1 - t_I$; if these earnings are instead retained, the market value of the individuals' shares goes up by q , which results in a marginal value to the shareholder after capital gains taxes of $q(1 - t_G)$. The shareholder is indifferent between retained earnings and distributions only when $1 - t_I = q(1 - t_G)$ or $q = (1 - t_I)/(1 - t_G)$; for higher values of q , retained earnings are preferred.

This suggests that the relevance of the new view result that investment decisions are not affected by dividend taxes depends on the characteristics of the firm being analyzed. In particular, it is useful to categorize firms in terms of a three-step evolution from new enterprises to mature established companies.⁶ First, for few firms, new share issues are likely to be the only source of equity finance. Such firms issue new shares and, assuming diminishing returns to investment, invest until the marginal return to investment falls to the point at which the marginal $q = 1$. Since such firms rely solely on new share issues, they are subject to full double taxation as described above.

Second, more established firms go through a period of "internal growth" during which retained earnings are the sole source of equity finance. Such firms retain all earnings and invest (rather than distributing dividends) until the marginal return to investment falls to the point at which $q = (1 - t_I)/(1 - t_G)$; however, as long as $q < 1$, such firms do not issue new shares. Sinn (1991) notes that although the investment decisions of such firms are not affected by the level of dividend taxation, since they are financed from retained earnings, they are negatively affected by the fact that q declines with additional investment (from $q = 1$ to $q = (1 - t_I)/(1 - t_G)$), which causes capital losses for current shareholders.

Third, "mature" firms have sufficient retained earnings that they can finance all profitable investments (those with re-

turns such that $q \geq (1 - t_I)/(1 - t_G)$, and still have funds left over for distribution as dividends to shareholders; since the marginal $q = (1 - t_I)/(1 - t_G)$, shareholders are indifferent between retentions and distributions. For such firms, the new view is applicable for the marginal investment. Note that the fact that $q < 1$ in equilibrium for both "internal growth" and "mature" firms implies that future dividend taxes are capitalized into the share prices of such firms; thus, the new view is also sometimes referred to as the "tax capitalization" view of dividend taxation.

Finally, note that the derivation of the new view assumes not only that "internal growth" and "mature" firms finance all current investment with retained earnings, but also that they expect never to have to rely on new share issues in the future.¹⁰ Edwards and Keen (1984) show that if firms expect to use new share issues in the future, an increase in dividend taxes will, by increasing the cost of the relatively expensive future new equity, cause firms to increase current investment financed with retained earnings; that is, under these circumstances, a dividend increase will reduce payout as predicted by the traditional view.

Proponents of the old view stress two main problems with the theoretical models underlying the new view. Most importantly, they note that the assumption that firms have no alternative means of distributing funds other than taxable dividends is counterfactual. In particular, firms generally may repurchase their own shares, in which case shareholders are subject to taxation at capital gains rates rather than at individual rates on dividends;¹¹ similar results obtain if the firm engages in a buyout or takeover or simply purchases the shares of other companies. Early theories of the new view argued that precluding share repurchases was reasonable in the U.S. context in that systematic share repurchases could be reclassified as dividends by the Internal Revenue Service and taxed accordingly. However, the recent explosion in share repurchases not subject to such reclassification suggests that even if the assumption that

profits must eventually be distributed as taxable dividends was once reasonable, it is now untenable.¹² Accordingly, some observers, such as Shoven (1990), argue that the view cannot accurately describe the effects of dividend taxes on investment.

However, this conclusion is not entirely obvious. Despite the recent increase in share repurchases, the empirical results discussed below indicate that much distribution of corporate profits still takes the form of taxable dividends. If firms still perceive some constraint on the extent to which share repurchases can be substituted for dividends, then results typical of the new view can still be obtained in a model with share repurchases. For example, McLure, Mutti, Thuronyi and Zodrow (1990) note that if an investment is financed with retained earnings and the fraction of profits that can be distributed to shareholders in the form of share repurchases rather than dividends is constant over time, then the "cash flow consumption tax" logic of the new view still holds (although the effective tax rate on new share issues is lowered). In a similar vein, Sinn (1991) shows that the cost of capital in the presence of share repurchases depends critically on the assumption one makes regarding the distribution of profits; in particular, if one assumes a fixed relationship between share repurchases and dividends (for whatever reason), the resulting cost of capital formula is consistent with the new view as long as the marginal investment is financed with retained earnings.¹³

The second major problem with the theoretical models underlying the new view is that the assumption that firms operate on the expectation that they will never have to rely on new share issues is questionable. As noted above, if this assumption is relaxed, investments financed with retained earnings are no longer unaffected by the level of dividend taxation. However, the quantitative importance of this qualification is unclear.

The Traditional View of Dividend Taxation

The traditional view of dividend taxation is that such taxes affect all equity-

financed investment decisions; that is, the traditional double taxation argument applies to both investments financed with new share issues and those financed with retained earnings. Two key assumptions characterize models in which the traditional view obtains.

The first is that shareholders derive a positive benefit from receiving dividends (as opposed to an increase in retained earnings) that offsets the tax penalty implied by $t_I > t_G$ as described above. These benefits may, for example, arise from the "signalling" value of dividend distributions in situations characterized by asymmetric information. On this view, firms have better information regarding current or future profits than do shareholders and can indicate "good news" by increasing dividend payments; they thus differentiate themselves from other firms who do not have similar positive prospects and are thus less willing to engage in a relatively costly distribution of profits.¹⁴ Another possible explanation is that dividend payments may be a partial solution to the "principal-agent" problem associated with the separation of ownership and control in the modern corporation; that is, such payments reduce managerial discretion over the use of profits by distributing earnings directly to shareholders.^{15,16} In either case, the traditional view implies that firms with a relatively high payout rate can pay a lower rate of return to shareholders, due to the "intrinsic value" of their relatively high level of dividends paid.

The traditional view thus implies that, at the margin, the tax advantage obtained from a reduction in dividends with a corresponding increase in retained earnings is exactly offset by the loss of informational content or the increase in managerial discretion implied by such a change in payout policy. Thus, the opportunity cost of one dollar of investment financed with retained earnings is simply one dollar; by comparison, recall that under the new view a dollar of foregone dividends gave rise to an investment of $(1 - t_G)/(1 - t_I)$. Note that this implies that in equilibrium investors are indifferent between equity finance in the form of

retained earnings and equity finance in the form of new share issues. As shown by Poterba and Summers (1985), this in turn implies that under the traditional view $q = 1$, since shareholders would not be willing to give up one dollar of after-tax income in order to get $q < 1$ worth of new capital.

The second key assumption in models that yield the traditional view is that marginal investments are effectively financed with new share issues. Specifically, each firm has an optimal dividend payout rate (denoted as "f") that depends on the intrinsic value of dividends paid and the characteristics of its shareholders. That is, each firm achieves and maintains an equilibrium amount of retained earnings and dividends paid as described above, and finances marginal investments with new share issues. However, as discussed by Poterba and Summers, new share issues in this case should be defined broadly to include all forms of finance for which the opportunity cost of investing a dollar in the corporation equals a dollar. In addition to the issuance of new shares, this includes short-term debt that will ultimately be repaid with new share issues, as well as reductions in share repurchases, takeovers, or purchases of the stock of other firms.

In addition to the assumption that marginal investments are effectively financed with new share issues, the traditional view assumes that a fraction f of earnings is paid out as dividends and a fraction $(1 - f)$ is retained. With a before-tax, net-of-depreciation return of g , this implies that shareholders receive a net return of $g(1 - t_B)[f(1 - t_I) + (1 - f)(1 - t_G)]$, which in turn implies that the effective tax rate on equity finance is

$$\begin{aligned} T_E &= [g - g(1 - t_B)[f(1 - t_I) \\ &\quad + (1 - f)(1 - t_G)]]/g \\ &= t_B + (1 - t_B)[ft_I + (1 - f)t_G]. \end{aligned} \quad (3)$$

Thus, under the traditional view, the returns to both types of equity-financed investment are subject to both business and individual level taxes, with the effective

individual tax rate equal to a weighted average of the tax rates on dividends and capital gains.¹⁷

Under this view, dividend taxes have important allocative effects. In particular, an increase in the dividend tax rate will raise the effective tax rate on investment income and thus tend to discourage investment. Moreover, an increase in the dividend tax rate will tend to reduce the dividend payout rate, as the cost of "signalling" profit information or reducing managerial discretion has increased.

The traditional view of dividend taxation thus provides a straightforward and intuitively appealing interpretation of the effects of dividend taxation. However, proponents of the new view stress two problems with the traditional view model. First, they argue that the assumption that the marginal equity-financed investment is financed with new share issues seems implausible, as net new share issues have averaged roughly two percent of total corporate funds raised in the post-war period, and have recently been significantly negative as a result of an increase in share repurchases.¹⁸ However, as noted above, new share issues in this case should be defined broadly to include reductions in share repurchases, takeovers, and purchases of stock of other firms. In addition, note that a relatively low aggregate level of new share issues does not necessarily preclude the possibility that a significant fraction of marginal investment is nevertheless financed with new share issues; unfortunately, determining the method of finance used for marginal investments would be an extraordinarily difficult empirical task.

Second, the use of taxable dividends as a means of signalling profit information or reducing managerial discretion seems to be a rather expensive means of achieving these ends—especially since, as discussed above, relatively lightly taxed methods of distributing funds to shareholders, such as share repurchases, are also available. Although it is certainly possible that risk averse investors would place a high value on signalling and/or a reduction in managerial discretion, Black (1976) and Edwards (1984) argue that the

"intrinsic value" of dividends is not sufficiently large to outweigh their tax costs. In addition, in the case of signalling, it would appear that firms could find alternative, less costly means of communicating information to shareholders. Finally, Fazzari, Hubbard, and Petersen (1987) note that despite the fact that information problems presumably are most severe for small, rapidly growing firms, such firms engage in very little "dividend signalling," as they have relatively low average payout rates.

Recent Empirical Tests of the Two Views

The recent empirical literature includes a variety of direct and indirect empirical tests of the validity of the two competing views of the effects of dividend taxation. This section comments briefly on some of the indirect evidence, and then describes in more detail the results of several studies that have a direct bearing on this question.

Indirect Evidence

A serious problem with the new view is that it has a number of implications that are at odds with observed data. For example, if in equilibrium marginal q is less than one and not significantly lower than average q , then firms should prefer to "purchase" capital by taking over other firms rather than purchasing capital directly (which has a price $1 > q$). Although takeovers have recently been an important phenomenon in the U.S., this particular implication of the new view is rather extreme. On the other hand, transaction costs may make takeovers an expensive way to acquire capital.

A second difficulty is that the new view implies that dividends should fluctuate considerably in the face of changing investment opportunities. For example, improved investment prospects (an outward shift of the marginal productivity of investment schedule) should lead to a reduction in dividends paid, as firms elect to retain earnings in order to take advantage of such prospects. However, dividend

payments are notoriously stable; moreover, firms appear to increase dividends when economic conditions are favorable, rather than reduce them.¹⁹ These results suggest that at best the new view model needs to be modified to take into account such firm behavior, which is consistent with the traditional view of dividend payments as a signalling mechanism.

Another difficulty arises, because as long as $t_G < t_D$, retained earnings are a cheaper source of finance than new share issues. As a result, firms should never simultaneously pay dividends and issue new shares. However, there are numerous instances in which firms engage in exactly this type of behavior, especially in the form of dividend reinvestment schemes.

Direct Empirical Evidence

Several recent empirical studies present results that have a direct bearing on the issue of whether the new view or the traditional view provides a better description of the effects of dividend taxation. The following discussion describes the results of six of these studies.

Gordon and Bradford (1980)

An early study by Gordon and Bradford (1980) uses a modified version of the capital asset pricing model to estimate the market valuation of dividends relative to capital gains. Their results indicate that dividends and capital gains tend to be valued equally; in particular they estimate a parameter that is roughly equivalent to q , and their results suggest that the value of q varies about one. Such a result is consistent with the traditional view, and inconsistent with the new view as long as capital gains are on average taxed less heavily at the individual level than are dividends. However, it should be noted that the variation of the Gordon and Bradford estimates of q about one is quite large.

Poterba and Summers (1985)

The paper by Poterba and Summers (1985) is perhaps the most widely cited in this literature. They examine the effects of changes in dividend taxation in the U.K. over the period 1950–81, focusing on empirical tests that potentially can distin-

guish between the new and traditional views. Poterba and Summers use British data because the treatment of dividends over this time period varied considerably in the U.K. but was roughly stable in the U.S. Of course, their results may not necessarily transfer entirely to the U.S. context, especially since share repurchases are not allowed in the U.K.²⁰

In the first test, Poterba and Summers note that the new view implies that a permanent change in dividend taxes should have no effect on dividend payouts for firms that finance investment from retained earnings; recall that under the new view dividends paid are determined as a residual after profitable investment opportunities are exhausted, and these opportunities are not affected by the individual level tax on dividends. In contrast, under the traditional view, a permanent decrease (increase) in the tax rate on dividends should increase (decrease) the payout rate because the cost of signalling or limiting managerial discretion has decreased (increased).

The effects of a temporary change in the level of dividend taxation are somewhat different. Under the new view, a temporary decrease in dividend taxes will result in a temporary increase in $q = (1 - t_D)/(1 - t_G)$. Since firms will anticipate capital gains on new investment, dividend payouts should fall as investment increases prior to the tax change. In contrast, under the traditional view, a temporary decrease in dividend taxes should prompt an increase in dividend payouts for the same reason as in the case of a permanent tax reduction. The history of changes in the tax treatment of dividends in the U.K. cited by Poterba and Summers suggests that changes in dividend taxes should be perceived as temporary rather than permanent, as they are likely to be reversed when the opposition party assumes power.

The Poterba and Summers regression estimates indicate a strongly negative relationship between dividend taxes and payouts. Although this finding supports the traditional view, their results are somewhat suspect, because they also find that the response of payouts to profits is

small or negative; they suggest without proof that this unappealing result is attributable to differences between economic and accounting profits. Nevertheless, similar negative relationships between dividend taxes and payout were also reported in earlier studies by Britain (1966) and Feldstein (1970).²¹ However, note also that the interpretation of such results is clouded by the possibility that dividend tax increases can result in a reduction in the payout rate in general equilibrium models that are consistent with the new view. For example, Auerbach (1979a) shows that for "mature" firms an increase in the dividend tax rate reduces the minimum equilibrium value of q (which equals $(1 - t_i)/(1 - t_c)$ as shown above), so that such firms will increase investment by increasing retentions until the new lower equilibrium value of q is attained. In addition, an increase in the dividend tax rate reduces the wealth of shareholders (since the equilibrium q falls), which in turn may lead to an increase in saving and thus an increase in capital intensity financed with increased retentions. In both of these cases, the dividend payout rate and the tax rate on dividends are negatively related, as predicted by the traditional view and as found by Poterba and Summers.

The second test performed by Poterba and Summers examines the effects of dividend taxes on the level of investment.²² They estimate an investment equation in which investment is a function of the difference between the current value of q and its equilibrium level; as noted above, the traditional view implies an equilibrium $q = 1$ and the new view implies an equilibrium $q = (1 - t_i)/(1 - t_c)$ for "mature" firms. Poterba and Summers estimate investment equations for each of the two values of the q variable, and for a weighted average of the two equations. Their results indicate that (1) the investment equation based on the traditional view q performs better, and (2) in the weighted average equations, the hypothesis that the weight on the equation based on the traditional view is one cannot be rejected, but the hypothesis that it is zero is rejected. Poterba and Summers conclude that

"most" investment decisions are explained by the traditional view.

Although these results are very interesting, it should be noted that the differences between the coefficients in the two equations estimated separately are not particularly large, and that the weighted average approach is rather ad hoc.²³ In addition, as noted by Sinn (1991), some firms in the Poterba-Summers sample presumably were not mature firms that financed investment entirely from retained earnings; he notes that the Poterba-Summers findings may reflect primarily the effects of changes in dividend taxes on "new" and "internal growth" firms, and thus do not represent a refutation of the new view. Finally, Sinn (1985) argues that over at least some of the time period considered in the Poterba-Summers sample, the tax burden on dividends may have been less than that on retained earnings; in this case, the traditional and new views would yield similar predictions regarding the effects of dividend taxes on investment.

Poterba (1987) and Nadeau (1988)

Two recent empirical studies also find a negative relationship between dividend payouts and tax rates, and thus—subject to the qualification noted above—support the traditional view. Poterba (1987) examines the relationship between dividend taxes and payout using U.S. data for 1935–86. He estimates a fairly simple model in which dividends paid are a function of a "target" level of dividends, which in turn is assumed to be a function of firm earnings and tax variables. He finds that the short-run elasticity of dividends with respect to the ratio of the after-tax values of a dollar of dividends relative to a dollar of capital gains is roughly 0.66; the analogous long-run elasticity falls in the 2–3 range. As in the case of the results presented in Poterba and Summers (1985), a somewhat troublesome implication of the estimates is that dividend payouts are relatively insensitive to increases in profitability.

Nadeau (1988) constructs a significantly more comprehensive model of firm real and financial decisions that is based on the traditional view. He assumes first

that the optimal division of earnings between dividends and retentions is determined by equating the marginal increase in the intrinsic value of dividends (as described above) with the marginal tax penalty on dividend distributions. Additional investment is then financed with an optimal mix of debt and new share issues, as firms minimize their cost of external funds on the assumption that increases in leverage increase the cost of debt finance due to an increased likelihood of incurring a costly bankruptcy.

Nadeau estimates his model using U.S. data for 1934-80. Since his model assumes the validity of the traditional view, it cannot be used to distinguish between the traditional and new views of dividend taxation. However, his estimates indicate that the dividend payout rate is very sensitive to the level of personal taxes on dividends and capital gains which, as noted above, is implied by the traditional view but inconsistent with the new view. One problem with Nadeau's empirical results is that the degree of dividend payout sensitivity implied by his results seems implausible. For example, he estimates that the reduction in dividend taxes and the increase in capital gains taxes under the Tax Reform Act of 1986 should increase the equilibrium dividend payout rate (as a fraction of total earnings) from 37 percent to 83 percent.²⁴

Auerbach (1984)

The empirical work of Auerbach (1984) is also of relevance to the debate regarding the relative merits of the new and traditional views of dividend taxation. Auerbach examines the relationship between the level of earnings (or the cost of capital) and the use of new share issues to finance investment for a sample of U.S. firms over the period 1958-1977. He finds strong evidence that the use of new share issues to finance investment is associated with significantly higher earnings; he argues that this implies that new share issues are perceived to be a higher cost source of funds than retained earnings. This result is of course consistent with the new view, which predicts that new share issues are the most expensive source of finance; by comparison, the traditional view

implies that at the margin firms should be indifferent between new share issues and retentions and that issuing new shares should have no effect on the cost of capital. On the other hand, as noted above, one would expect that new and emerging firms would be disproportionately large users of new share issues as a means of financing investment. Accordingly, Auerbach's result may reflect relatively high returns to investments in such firms either to compensate investors for the risk associated with new ventures or because such investments account for a disproportionately large number of highly successful ventures. However, since Auerbach considers only firms in existence over the entire twenty-year sample period, the number of new and emerging firms in the sample may be fairly small; thus the importance of this qualification is unclear.

Auerbach also uses some indirect evidence on the tax attributes of each firm's shareholders to examine the relationship between a firm's earnings and the individual tax rates of its shareholders. He finds that an increase in the personal tax rate of a firm's shareholders is associated with a decrease in the required level of earnings (or cost of capital). Such a result is inconsistent with the traditional view, which implies that an increase in the personal tax rate should increase the cost of capital. However, this result can be interpreted as being consistent with the new view, as the reduction in the cost of capital arises because the personal tax rate increase has no effect on the return to investment financed with retained earnings but reduces after-tax returns to alternative investments. That is, personal taxes "matter" only in the sense that they reduce returns to investments that compete for funds with corporate investments financed with retained earnings; personal taxes thus encourage such corporate investment, rather than discouraging it as predicted by the traditional view.

Bagwell and Shoven (1989)

Finally, Bagwell and Shoven (1989) note that share repurchases and cash mergers and acquisitions have become an increasingly important alternative to dividends as a means of distributing cash to share-

holders; for example, they show that dividends accounted for 80 percent of total cash distributions in 1977, but accounted for only 40 percent by 1986. Such non-dividend distributions would typically be taxed at relatively low capital gains tax rates. As discussed above, this phenomenon calls into question one of the basic assumptions of the new view—that firms must use taxable dividends to distribute funds to shareholders. However, increased use of share repurchases also poses problems for the typical derivation of traditional view, as one must explain why signalling or reductions in managerial discretion are achieved through the use of relatively heavily taxed dividends rather than the use of more lightly taxed share repurchases.

Conclusion

The review of the literature presented in this paper suggests that the debate regarding the relative merits of the new and the traditional views of dividend taxation is likely to continue for some time. Although the empirical evidence on this issue is somewhat mixed, most studies support the traditional over the new view; thus, many observers would agree with Gerardi, Graetz, and Rosen (1990, p. 312), who conclude that "the current state of empirical knowledge gives the edge to the traditional—as opposed to the new—view of dividends." Nevertheless, further empirical investigation of this issue would be useful in helping to resolve the debate.

The theoretical models underlying the new view are simple and elegant, but are problematic because they generally are based on the increasingly questionable assumption that share repurchases are precluded. On the other hand, although the theoretical models underlying the traditional view are also well-developed, they are plagued by the lack of consensus regarding the answer to the perennial question of why firms pay dividends; this issue is especially problematic since share repurchases provide a means of signalling profitability or limiting managerial discretion that results in a much smaller

tax cost than that incurred with the paying of dividends.

This discussion suggests that theoretical models of dividend taxation should attempt to integrate aspects of both the new and the traditional views of dividend taxation, and account explicitly for the possibility that share repurchases can be used to distribute profits to shareholders. One promising recent study that pursues such an approach is Bernheim (1990). Although Bernheim does not directly address the traditional/new view debate, his analysis of the "dividend puzzle" is highly relevant. Specifically, he constructs a model in which both dividends and share repurchases signal profitability. The critical factor in the model is that the use of relatively high tax cost dividends as a signalling device is to some extent desirable for high quality firms, because by paying costly dividends they are able to use a relatively small total distribution to shareholders to differentiate themselves from lower quality firms. Bernheim derives the optimal combination of dividends and share repurchases as the mix that balances the marginal tax cost of using dividends against the marginal gain of achieving a given level of signalling with a smaller total distribution of profits. Interestingly, although the signalling interpretation of dividends in the Bernheim model is characteristic of the traditional view, the effects of changes in dividend taxation in his model are generally typical of the new view; specifically, he shows that although dividend tax increases alter the optimal mix of dividends paid and share repurchases (reducing the payout rate),²⁵ they have no effects on investment decisions. Further work along these lines appears to be the most promising route to achieving a consensus regarding the effects of dividend taxation.

ENDNOTES

**I have benefitted from discussions with Peter Mieszkowski and from the comments of three anonymous referees, whose suggestions resulted in significant improvements to the paper.

¹See also American Law Institute (1990).

²A separate issue is whether debt finance is pref-

erable to equity finance. However, even if this is the case at low levels of debt, reliance on debt finance is limited, because the probability of incurring a costly bankruptcy increases with increasing leverage. The discussion in this paper assumes that the amount of debt finance is fixed and that the marginal investment is financed with equity.

³As will be discussed below, the new view of dividend taxation has also been described as the "trapped equity" or "tax capitalization" view. It was initially developed by King (1974a, 1974b, 1977), Andrews (1979), Auerbach (1979b, 1981, 1983) and Bradford (1981).

⁴For example, see Sinn (1991).

⁵See McLure and Zodrow (1987) for a brief discussion of this issue in the context of the debate surrounding the Tax Reform Act of 1986.

⁶The extent to which this is a reasonable assumption is discussed below.

⁷The capital gains tax rate t_G is an effective annual rate that takes into account the advantages of taxation upon realization rather than on accrual, any special treatment of gains transferred by gift and at death, preferential rates and any other relevant tax preferences, as well as the disadvantage of the fact that nominal rather than inflation-indexed gains are subject to tax.

⁸For example, see Aaron and Galper (1985) or Zodrow and McLure (forthcoming). Note, however, that the equivalence between cash flow taxation and yield exemption is based on a number of fairly stringent assumptions, including constant tax rates and discount rates and the appropriate treatment of the initial and final wealth of the individual; for a discussion that focuses on conditions under which this equivalence result does not obtain, see Graetz (1980).

⁹The following discussion is based on Auerbach (1983) and Sinn (1991).

¹⁰For example, see the derivation in Poterba and Summers (1985).

¹¹Note however that share repurchases are prohibited in the U.K.

¹²Bagwell and Shoven (1989) document the recent increase in share repurchases; their work is discussed below. Barclay and Smith (1988) note that the IRS has apparently never imposed such a reclassification on a large public corporation. Note also that SEC rules that limit open market purchases in order to avoid market manipulation are unlikely to constrain attempts to replace dividends with share repurchases; see Pickering (1991).

¹³See also the discussion below of the model of dividend taxes constructed by Bernheim (1990).

¹⁴See Bhattacharya (1979), Miller and Rock (1985), John and Williams (1985) and Williams (1988).

¹⁵See Jensen and Meckling (1979) and Easterbrook (1984).

¹⁶In addition, Shefrin and Statman (1984) argue that shareholders with uncertain incomes may value a relatively certain dividend stream.

¹⁷Note, however, that one could argue that this standard formulation of the traditional view is incomplete, in that the effects of the reinvestment of retained earnings are not included in the calculation.

¹⁸See Gertler and Hubbard (1990).

¹⁹See Poterba and Summers (1985) and the references cited therein.

²⁰Note that since the standard new view assumption that share repurchases are precluded is satisfied in the U.K. (but not in the U.S.), one might speculate that results supporting the new view would be more likely to obtain in the U.K. context. As discussed below, this does not prove to be the case.

²¹See also the discussion below of the more recent work of Poterba (1987) and Nadeau (1988).

²²See also Poterba and Summers (1983).

²³Moreover, note that the q-based investment equation approach is inconsistent with more commonly used investment equations that are based directly on the cost of capital faced by the firm.

²⁴Indeed, Nadeau notes that his estimate of the impact of the Tax Reform Act of 1986 is approximately five times greater than that estimated by Poterba (1987).

²⁵Note in particular that this result is consistent with the empirical evidence cited above on the effects of dividend taxes on payout rates.

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