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Effects of Capital Gains Taxation on Life-Cycle Investment and Portfolio Management:
Discussion

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While many elements of reality were ignored, we would argue that the effects on which we focused will be robust to the addition of many such considerations. In general, our results on resource allocation in the presence of effective capital gains tax regulations indicates that it is important to explicitly model the set of feasible transactions if we are to engage in realistic examinations of capital gains taxes.

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DISCUSSION

CHESTER S. SPATT*: I liked this paper very much. It is a careful and high quality treatment of the effect of capital gains taxation in a long-run model of the life-cycle portfolio behavior of investors.

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The analysis in the model emerges as implications of the idea that in an environment with constant nominal tax rates it is optimal for investors to realize their highest basis positions first. For example, if an investor needs to consume a fixed amount, then by realizing the highest basis securities the recognized capital gain is minimized and the tax deferral maximized. This idea is explicitly discussed in several analyses in the literature, most directly in an earlier paper by the authors (see Balcer and Judd [1985]). An earlier form of this notion arose in the literature on tax options and the asymmetric treatment of short-term and long-term realizations, in which investors optimally realize small long-term gains to obtain the advantages from restarting the tax option and qualifying for future short-term losses.¹ In these various types of models the optimality of selling one's highest basis assets can be extended to incorporate the effect of transactions costs.

Balcer and Judd [1987] assume that bond returns are immediately taxed to investors, while the taxation of equity returns is deferred until realization and then taxed at the same nominal tax rate as debt.² In addition, issuers of bonds are assumed to be less heavily taxed than issuers of equity (due to the deductibility of interest payments). Under the maintained assumption of certainty of the security returns, the resulting equilibrium is one in which the corporate advantage of debt is offset by the individual advantage of deferral on the equity at the margin. The extent of advantage of the deferral is determined by the endogenous accumulation and decumulation periods of the individual investor, akin to using progressivity of individual taxes to close the Miller [1977] equilibrium. Investors initially save by investing in the asset whose tax treatment is deferred, i.e., the theory implies that early in the life cycle investors purchase equity and then purchase debt. Then the debt is sold prior to the equity, which is sold on the last in first out (*LIFO*) method. This solution maximizes the advantage of the deferral.

These ideas are both interesting and intuitive. Because they are so closely linked to the Miller model, I would have emphasized these parallels to a somewhat greater degree. As in the Miller analysis some of the specific qualitative conclusions concerning the structure of investor portfolios are sensitive to the assumption of certain returns. For example, the Balcer and Judd [1987] model predicts that an individual investor purchases only equity or debt at a given time. I suspect that with sufficient uncertainty and risk aversion the model would imply the existence of a subset of the accumulation (decumulation) interval in which both types of assets were acquired (sold).³ As an aside, recent extensions of the Miller model have often incorporated uncertainty (e.g., Ross [1985], Dammon [1984] and DeAngelo and Masulis [1980]).

¹ The realization of long-term capital gains to increase the value of the option to recognize future losses short-term is examined in Constantinides [1984]. It is straightforward to establish that there will exist a cutoff basis below which it will be optimal to realize the loss (e.g., Constantinides [1984] and Dammon, Dunn and Spatt [1987]).

² This stylized description is quite similar to the actual code that will apply starting Jan. 1, 1988. During 1987 the maximum tax rate on capital gains is 28%, which is below the tax rate on interest for high income investors.

³ However, if markets were "doubly complete" (see Ross [1985] and Dammon [1984]), then the incentive for investor diversification between favorably taxed and heavily taxed assets would be eliminated.

My major reservation about the paper is the blanket use of the assumption that there is effective taxation of capital gains. This assumption prevents the borrower from selling debt short, i.e., borrowing. By borrowing against the equity the investor could consume its pre-tax value and eliminate the taxation of the gain, as the basis is stepped up to market at the time that the investor dies.⁴ The pre-tax value of the equity can then be used to repay the investor's borrowing. The assumption that there is effective taxation of capital gains is at variance with standard optimal tax realization strategies. The principal justification offered for this assumption is that in the aggregate investors pay substantial capital gains tax as documented by the interesting empirical study of Poterba [1986], presented in this session. But it is not sufficient to justify implausible assumptions because they are necessary to produce reasonable results. An alternative specification could be more appropriate.

Another defense offered for assuming away tax avoidance in the paper is the presence of various statutory limits, such as the limit on net deductible capital losses. Yet in a model with uncertain returns and the ability to use hedges to create artificial tax losses, an investor could have shielded from taxation his entire capital gain on equity. Because the statutory \$3,000 ceiling applies to net losses, i.e. net of gains, rather than gross losses, at the margin realized capital gains can be made effectively tax exempt in a perfect markets model.

Balcer and Judd [1987] seems largely motivated as a critique of measures of effective tax rates used in public finance to evaluate government tax policy. The paper's criticisms are quite reasonable, but scholars in finance have not taken the effective tax rate approach seriously during the last few years. The effective tax rate is a crude reduced form representation with serious biases, like the often used concept of duration in analyzing fixed income securities. I am not persuaded that it is especially useful to be recomputing effective tax rates after analyzing a careful model of tax realization behavior, though the presentation here of the basic pattern of effective tax rates over the life-cycle is useful. Also, I am not inclined to take seriously the Balcer and Judd [1987] calculation of effective tax rates because of my reservations concerning their assumption that there is effective enforcement of the capital gains tax.⁵

My own bias is to focus upon the effectiveness of the taxation of capital gains and losses using reasonable realization strategies rather than to limit the ways in which taxation can be avoided. Empirical work by both Constantinides [1984] and by Dammon, Dunn and Spatt [1987] shed light on this issue. Despite these quibbles I found the paper very interesting. It provides a variety of interesting insights describing the potential consequences of the deferral of the taxation on capital gains.

⁴ The implicit transactions costs that prevent borrowing against one's security position are especially unclear in a framework in which returns are certain.

⁵ An alternative approach to the problems with implicit effective tax rates in a tax realization model is in the Constantinides and Ingersoll [1984] analysis of bond realization strategies and valuation.

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