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Tax-Loss Carryforwards and Corporate Tax Incentives

Alan J. Auerbach and James M. Poterba

The recent decline in corporate tax revenues has generated new interest in the corporate income tax. During the last few years, low profitability and highly accelerated depreciation allowances for new investment have combined to generate tax losses for many firms. Some of these firms have been able to carry their losses back against taxes paid in previous years, and they have received refunds. For other firms, however, recent tax losses have exceeded the maximum potential carry-back. These firms must carry their unused tax losses forward and use them to offset taxable profits earned in the next fifteen years.

For firms with tax-loss carryforwards, the effective configuration of investment incentives may be substantially different than for fully taxable firms. A firm that is currently taxable and expects to be taxable in the next few years will be able to use its depreciation deductions as soon as they accrue. For a firm with loss carryforwards that does not expect to become taxable in the near future, however, currently accruing depreciation deductions may not be realized for many years. This reduces the effect of investment incentives, such as the investment tax credit or accelerated depreciation allowances. Firms with loss carryforwards also receive a tax benefit, however. Their earnings on new projects may be virtually untaxed for several years, reducing the burden of the corporate tax and therefore encouraging investment.

This paper (see Martin Feldstein, ed., *The Effects of Taxation on Capital Accumulation* [Chicago: University of Chicago Press, 1987]) estimates the importance of loss carryforwards for U.S. firms and then

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calculates the impact of these carryforwards on corporate investment incentives. We focus on the period 1981–84 and gather data from corporate annual reports and 10-K filings to determine which firms have tax loss carryforwards or are otherwise restricted in their use of investment incentives. We find a substantial increase in the total stock of outstanding loss carryforwards during the sample period, and find that at least 15% of corporations were carrying losses forward at the end of 1984. In some industries, the incidence of loss carryforwards is substantially higher.

To analyze the persistence of loss carryforwards, we estimate the probability that firms with carryforwards will exhaust them and become taxable between one tax year and the next. The data suggest that, between 1982 and 1984, ninety-one out of 100 firms with loss carryforwards in one year continued carrying losses forward in the next year. Only nine out of 100 become fully taxable in a typical year; this suggests that, once a firm experiences a tax-loss carryforward, it may not return to currently taxable status for several years. For taxable firms, the odds of entering the loss-carryforward position are small: only two firms in 100 move from being currently taxable to having a loss carryforward in a typical one-year period. The strong persistence of loss carryforwards makes the deferral of depreciation allowances a potentially significant effect on the firm's investment incentives.

We summarize the effect of loss carryforwards on investment incentives using effective tax rates, which measure the total tax wedge between the pretax and posttax return on investing in different assets. We find that, under pre-1986 law, the effective tax rate for an investment in industrial equipment for a firm that is currently taxable is -5.8% . The negative effective tax rate indicates that the combination of accelerated depreciation and the investment tax credit actually subsidizes equipment investment for taxable firms. For loss-carryforward firms, however, the effective tax rate on equipment is 15.0% . Because these firms are unable to use accelerated depreciation allowances as they accrue, and because they are more likely to be taxable in the distant future when the investment is yielding taxable profits than in the near term when it is generating negative taxable income, the net effect of the tax system discourages these firms from undertaking equipment investments. A rather different picture emerges for the case of industrial buildings, where the taxable and tax-loss firms face similar effective tax rates. For the currently taxable firm, the effective tax rate on buildings is 41.7% , while for the firm with a loss carryforward, it is 38.3% . The tax system provides a net disincentive to structures investment for both classes of firms.

The dramatic disparity in effective tax rates on equipment and the small differences for structures are due to the different time paths of

depreciation allowances for the two assets. For equipment, a firm's tax status in the near term is of central importance in determining the present value of its depreciation deductions. For structures, however, the depreciation allowances accrue over a much longer horizon. The fraction of currently taxable firms that will have tax-loss carryforwards ten years from today is much higher than the fraction that will have losses in one year. Similarly, current loss-carryforward firms are more likely to have loss carryforwards again next year than ten years hence. Whether a firm has tax losses today is therefore a better predictor of its tax status during the relevant years for equipment allowances than for structures.

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