

7 TAX INCENTIVES

*T*ax incentives represent a public/private partnership.¹ In terms of the taxonomy used to characterize public/private partnerships, tax incentives, and the legislation that promulgates them, represent indirect governmental involvement in innovation. The economic objective of tax incentives, in particular the R&E tax credit, is to leverage private R&D. See Table 7.1.

TAX INCENTIVES

Tax incentives, in general, are a mechanism that government uses to stimulate or leverage private sector R&D. Like any policy tool, tax incentives have advantages and disadvantages. Advantages include the following (Bozeman and Link 1984):

- Tax incentives entail less interference in the marketplace than do other mechanisms, thus affording private-sector recipients the ability to retain autonomy regarding the use of the incentives.
- Tax incentives require less paperwork than other programs.
- Tax incentives obviate the need to directly target individual firms in need of assistance.
- Tax incentives have the psychological advantage of achieving a favorable industry reaction.
- Tax incentives may be permanent and thus do not require annual budget review.
- Tax incentives have a high degree of political feasibility.

¹ This chapter is based on Bozeman and Link (1984), various presentations by Link at the OECD in the early 1990s, and Link (1999b).

Some disadvantages of tax incentives are:

- Tax incentives may bring about unintended windfalls by rewarding firms for what they would have done in the absence of the incentive.
- Tax incentives often result in undesirable inequities.
- Tax incentives raid the federal treasury.
- Tax incentives frequently undermine public accountability.
- The effectiveness of tax incentives often varies over the business cycle.

Table 7.1. Taxonomy of Public/Private Partnerships

| Economic Objective | | |
|---------------------------------|--------------------------------|---|
| <i>Governmental Involvement</i> | <i>Leverage Public R&D</i> | <i>Leverage Private R&D</i> |
| Indirect | | Patent system (Patent Act) |
| | | Tax incentives (R&E tax credit) |
| Direct | | |
| Financial Resources | | |
| Infrastructural Resources | | |
| Research Resources | | |

THE ECONOMICS OF TAX CREDITS

Figure 7.1 illustrates the economics of a tax credit. The marginal rate of return is measured on the vertical axis and the level of R&D spending is measured on the horizontal axis. Both the marginal social return and the marginal private return schedules are downward sloping reflecting diminishing returns to R&D investments in a given time period. The social return schedule is drawn greater than the private return schedule for all levels of R&D because firms cannot appropriate all the benefits from conducting R&D; some of those benefits spillover to other firms in the current time period and in the post-innovation time period thus generating additional benefits to society. The marginal cost to the firm to undertake R&D is shown to be constant (horizontal).