

Financing of Industrial Innovations in India: How effective are tax incentives for R&D ?

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The government in India is on a major innovation drive like the governments across the developing world and especially that of China. This drive could be found in several policy measures enunciated over the past ten years or so and especially in the Science and Technology Policy of 2003, where in it is stated that the government targets the expenditure on S&T to be about 2 per cent of GDP and this is to be largely contributed by the industry through significant increases in industrial R&D. Industrial R&D, therefore, may have to be incentivized through the provision of a variety of fiscal incentives such as tax incentives. This thinking again reflects the worldwide move toward using non-interventionist, but market-friendly forms of increasing investments in industrial R&D and within this scheme of things tax incentives form an important instrument. In India, even as early as 2001, the existing tax treatment of R&D had undergone some upward revisions, but targeted more specifically at around eight high and medium technology based industries. Although a few studies are available on the financing of industrial innovation, with rare exceptions, most of these have been descriptive, merely, cataloguing the various schemes available for encouraging investments in industrial R&D. However no analytical studies on the effectiveness of these incentives in the specific Indian context are available. This is significant as recent estimates by the Ministry of Finance showed that the amount of corporate tax foregone consequent to the tax treatment of R&D has been increasing at a rate of 33 per cent per annum over the last three fiscal years until 2006-07: in 2004-5 about Rs 2318 Crores of corporate tax revenue had been foregone as a result of the operation of this scheme, but this has since increased to Rs 4107 cores by 2006-07. In the context, the purpose of the present study is to analyse the effectiveness of a specific tax scheme that has been in operation since 2001. In very specific terms, this is accomplished by computing the elasticity of industrial R&D expenditure in India in response to a unit reduction in the cost of performing R&D. Such estimates of elasticity of R&D will be very helpful in judging whether the tax incentive for R&D is effective in stimulating proportionate investments in R&D.

Structure of the Paper

1. The Context
2. Overall performance of India's innovation system in terms of: (a) R&D investments; and (b) patents
3. Structure of performance of Industrial R&D in India and its financing

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4. Evolution of the policy with respect to tax treatment of R&D and its present manifestations
5. Empirical exercise in measuring the effectiveness of tax incentives
 - 5.1: How attractive is India's tax regime wrt to R&D?
 - 5.2 : Elasticity of R&D expenditures in response to the tax incentives
6. Policy conclusions