

**Bill tabled by the Alliance 90/The Greens parliamentary group for an
SME Research Promotion Act (Bundestag printed paper 18/7872)
Written statement for the hearing on 19 September 2016
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The main economic rationale for R&D tax incentives is that the knowledge a firm gains through R&D will, sooner or later, spread to other firms. As a result the benefits of R&D for society are likely to exceed the benefits for the firm. Empirical research suggests that this difference can be substantial: the social rate of return on R&D investments is estimated to be twice as large as the private return (IMF 2016, Ch. 2). Without government intervention, firms will therefore underinvest in R&D. R&D tax credits reduce this market failure by providing a generic subsidy on R&D investments.

R&D tax credits have been evaluated far more often than any other innovation policy instrument and the empirical literature convincingly shows that R&D tax incentives are effective in raising private R&D expenditure. For SME's empirical studies report estimates ranging from 0,5 to 2,7 euro per euro of foregone tax revenue (e.g. Cornet and Vroomen 2005, Dechezleprêtre et al. 2016). There are, however, indications that conservative estimates are less likely to be published than estimates suggesting large effects (Gaillard-Ladinska et al. 2015).

The proposed tax incentive is a reduction in corporate income tax for SME's by 15 percent of R&D expenditure. The rate of 15 percent is a modest incentive compared to those present in other countries (typically rates vary around 30 to 40 percent). The IMF (2016) suggests an optimal rate of fifty percent based on the observation that the estimates of the social return on private R&D tend to be twice as large as estimates of the private return.

Besides the rate of the incentive there are several other design elements that may affect the effectiveness of an R&D tax incentive (CPB et al. 2014 discusses best practices for twenty design elements). From an economic perspective, one crucial design aspect is how well the incentive is targeted to activities that are likely to generate knowledge spillovers. In practise, targeting these activities is mainly done by imposing a novelty requirement on eligible expenditure: research that creates knowledge that is new to the world is likely to generate stronger knowledge spillovers than research that results in knowledge new to the country. Most EU-countries base their novelty requirements on the rather strict definitions provided in the OECD's Frascati manual (2015).

Novelty requirements increase the effectiveness of tax credits in addressing market failure, but they can be challenging to implement for at least two reasons. First, the organization responsible for administering the tax incentive must be able to compare applications for the tax credit to the state of the art in science. In some countries (e.g. Norway) applications are evaluated by experts with a scientific training working for a government agency, in other countries (e.g. France) academic researchers working for universities are consulted by the government.

The German proposal to let (private?) organizations certify the eligibility of a firm's R&D expenditure would be a novel approach. A risk associated with this approach is that certifying organizations might be difficult to monitor by the tax office. Monitoring is difficult because assessing the novelty of research projects is a highly non-routine task in comparison to e.g. testing the safety of cars. As a result, certifying organisations might be able to reduce their costs and increase their market share by lowering their standards, thereby undermining the effectiveness of the tax incentive.

A second challenge is that assessing novelty brings along substantial administrative and compliance costs. Here, using certification could contribute to low compliance costs as certifying organisations compete to deliver the best service. For startups and other firms with little R&D expenditure, the proposed 15 percent rate might still not be high enough to cover compliance costs (compliance costs tend to be largely independent of the amount of R&D undertaken). In order to make the tax credit attractive for these smaller firms while keeping a focus on activities generating knowledge spillovers, one could consider a higher rate for the tax credit.

References

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