

Competition for R&D tax incentives in the European Union – how an optimal R&D system shall be designed

1. Introduction

Investments in R&D are widely seen as providing employment, boosting exports and stimulating the economic growth. They lead to new products, increased productivity and higher income. To make innovation more economical, many countries offer a variety of subsidy programs or operate specific tax investment schemes. Especially in times of fiscal austerity, governments are keen to introduce new measures and improve the existing ones to ease their country's road to recovery.

A commonly held view is that tax incentives cause distortions (investments are made that would not have been made without the inducement of special tax concessions), are difficult to administer and open to abuse. Moreover, sometimes their costs, in terms of revenues forgone, may exceed any benefits they may produce. Finally, countries offering incentives may engage in a “race to the bottom” which means that generous incentives cause a decrease in the national tax revenues with a corresponding reduction in public services. Alternatively, in order to maintain public services, the tax burden is shifted to less mobile bases – workers and consumers.

Competition to attract investment is especially strong among neighboring countries. Nowhere has greater concern been expressed over tax competition than within the European Union. Nevertheless, despite the strong condemnation of tax incentives, Member States continue to offer generous benefits to attract R&D investments.

The purpose of this article is to consider how R&D tax incentives may be designed in the most optimal way and whether the competition between various incentive systems may lead to a “race to the bottom”. It is focused on the European Union as it is, with more than 500 million inhabitants and GDP of above EUR 12,629 billion, the major economic player in the world. The article proceeds in five parts. First, the types of tax incentives and the EU policy towards them are explained. The next parts look at the concept of tax competition and how Member States engage in it to attract more R&D investments. Finally, the article concludes with some design considerations.

2. Forms of R&D tax incentives

The main forms of tax incentives are: tax credits, allowances (deductions) and the application of reduced tax rates to certain R&D-related income. Moreover, some countries have also introduced a reduction of the wage and salary costs for research personnel.

A deduction of research expenses reduces the tax base while a tax credit either reduces the amount of tax due or allows a refund for companies which are in a loss position. Deductions may take the form of accelerated depreciation (the cost of acquisition of an asset may be written off more quickly than it would be allowed under the normal depreciation schedules) or allowances granted in addition to normal depreciation. Credits may be either volume-based or incremental. The former applies to all R&D expenses incurred by a company during its financial year while the latter rewards only expenditures over a certain baseline in order to encourage an increase in research activities. The base level of expenditures is usually calculated as a function of expenditures that were incurred by the company in previous years.

3. EU policy towards RD tax incentives

R&D incentives generate a wide range of reactions in the European Union – from condemnation as forbidden state aid to appreciation for stimulating innovation and competitiveness. One of the key milestones of the Lisbon strategy¹ was to make the European Union the most competitive and dynamic knowledge-based economy by increasing the R&D activities expenditures of the Member States to 3 % of their GDP by 2010. As this goal was not achieved within the prescribed deadline, the European Commission has incorporated the target of investing 3% of GDP in R&D into Europe 2020 – a new strategy defining objectives to be reached by the EU by 2020.

Under EU law, tax incentives must not violate the State aid rules. The purpose of these rules is to provide a level playing field for all projects in the EU regardless of where they are undertaken.² State aid is defined as any financial aid granted through State resources which threatens to distort competition or affect intra-Community trade by favoring certain undertakings.³ Its important feature is selectivity, which means that potential beneficiaries are restricted in terms of size (e.g. only small and medium-sized enterprises), location or sector. The consequences of non-compliance with State aid rules are severe. If the Commission considers a measure to be unlawful State aid, the recipient is required to repay the benefit plus interest.

An R&D tax regime must also be compatible with the fundamental freedoms. According to the ECJ case law, those freedoms are violated if a tax incentive is granted only for expenses incurred in a particular Member State. The ECJ dealt with this matter in the following cases: *Laboratories Fournier SA (C-39/04)*⁴, *Commission vs. Spain (C-248/06)*⁵ and *Société Baxter and Others vs. Premier Ministre (Case C-254/97)*⁶.

¹ The Lisbon Strategy was an action and development plan for the economy of the European Union between 2000 and 2010. It was set out by the European Council in Lisbon in March 2000.

² M. Rashkin, "Practical Guide to Research and Development Tax Incentives", p. 20.

³ Art. 108 TFEU.

⁴ ECJ judgment of 10 March 2005.

⁵ ECJ judgment of 2 June 2006.

⁶ ECJ judgment of 8 July 1999.

Tax incentives for R&D activities exist in many European countries.⁷ However, they vary significantly from Member State to Member State. Due to the limited competences of the EU in the field of direct taxation, it is not possible to implement a uniform R&D policy and one definition of qualifying expenditures. Different, frequently changing and often complex regulations make it difficult for tax planners and multinational companies to find the most suitable location for their R&D units. On the other hand, the competition among Member States to attract more R&D enhances the free movement of best practices for both tax planning opportunities and national legislation. If a measure turns out to be successful in one country, others may use it to attract investment as well.

4. EU policy towards tax competition

Tax competition occurs when governments lower their fiscal burdens to either encourage the inflow of foreign investment or to discourage the outflow of domestic resources. It is viewed as a positive phenomenon since there is nothing wrong with the fact that some countries want to offer the best infrastructure and regulatory environment at the lowest tax cost. If the cost of doing business is lower, taxpayers can undertake investments with lower expected returns or higher risks. On the other hand, tax competition may become harmful when special tax schemes do not create opportunities for economic activities, but merely drain activity from one country to another (this usually occurs by artificial cross-border shifts of activities). Such practices undermine fair competition, distort investment decisions and cause welfare losses in the drained countries.

The issue of tax competition and coordination has gained great importance in the European Union. In a world where economies are increasingly integrated and capital increasingly mobile, the trend of offering tax benefits led to fears of a race to the bottom. In 1997, the Council of Economics and Finance Ministers (ECOFIN) adopted the Code of Conduct for Business Taxation which aimed at reducing distortions in the Single Market and preventing excessive losses of tax revenue resulting from relocating business activities to countries offering tax benefits. The Code of Conduct was a non-legally enforceable political commitment relying on peer pressure for effectiveness. It required Member States to refrain from introducing any new harmful tax measures and to rollback the existing ones. Harmful tax measures were defined as measures which may affect in a significant way the location of business activity in the European Union and which provide for a significantly lower effective level of taxation than the general level of taxation in the Member State concerned. The following characteristics were relevant in the assessment of harmful tax measures:

- off-shore characteristics: availability of tax advantages only for non-residents;
- ring-fencing: protection of the domestic market against the tax advantage, so that it does not erode the tax base of the country concerned (but only those of the neighboring countries);
- lack of substance: granting of the tax advantage irrespective of any real economic activity and substantial economic presence in the country concerned;

⁷ For an overview of R&D tax incentives in selected European countries, see A. Bal/ R. Offermanns, “R&D Tax Incentives in Europe”, *European Taxation*, Vol. 52, No. 4, 2012.

- lack of arm's length dealing: application of rules for the determination and allocation of profits within a group of companies that depart from internationally accepted standards;
- non-transparency: unpublished advance ruling, negotiability of the tax burden, non-enforcement of legal provisions.

In March 1998, a working group composed of representatives from different Member States and chaired by UK Paymaster Dawn Primarolo was set up to assess the tax measures that may fall within the scope of the Code. In a report of November 1999, the Group identified 66 tax measures with harmful features (40 in EU member states, 3 in Gibraltar and 23 in dependent or associated territories).⁸ Among them, there were measures related to R&D activities (for example, reduced rate on royalty income in France, tax credits for small and medium-sized enterprises in Italy, research deduction in Austria).

On 28 April 2009, the Commission adopted a Communication identifying actions that EU Member States should take to promote "good governance" in the tax area (more transparency, exchange of information and fair tax competition). It called on the Member States to continue the work to eliminate harmful tax measures under the Code of Conduct.

5. Design considerations

This section discusses how an R&D system shall be designed in the most optimal way and how tax incentives shall be implemented to prevent a "race to the bottom".

5.1. Scope and form of tax incentives

An efficient system of R&D incentives should first establish what constitutes "research and development expenditure". The Frascati Manual could be used as a basis to define it.⁹ According to the Manual, qualifying expenditures include: wages and salaries for staff engaged in eligible R&D activities, expenses directly related to investments in fixed and current assets (including the acquisition of real estate) as well as financing and indirect costs that can be allocated to eligible R&D activities.¹⁰

The choice of the correct form of an incentive is a more complex issue. Deductions tend to encourage capital-intensive investment and are less favourable towards employment creation. They may distort the choice of capital assets, creating a preference for short-lived assets so that a further allowance may be claimed on replacement. There is also potential for abuse: assets may be overvalued to increase the deduction. In general, deductions favor large and profitable companies while a tax credit can be used even if there is no tax liability. A credit provides assistance when it is most needed, i.e. when the project is still in progress while tax-rate-related fiscal measures support only completed successful projects.

⁸ Report from Code of Conduct Group (Business Taxation) to ECOFIN Council, available at: http://ec.europa.eu/taxation_customs/taxation/company_tax/harmful_tax_practices/index_en.htm

⁹ It was first issued in 1963 and has been revised several times since then. In 2002, the sixth edition was published. The definitions provided in the OECD Frascati Manual became internationally accepted and are used in the legislation of many countries.

¹⁰ OECD Frascati Manual 2002, Chapter 6.

The credit may take two forms: volume-based or incremental. The main problem in designing an incremental tax credit is the difficulty of defining an incremental and base level of R&D which leads to high compliance and administrative costs. Its disadvantage is that it not only subsidizes new R&D activities but also those that a company would have done anyway. This means that a part of the expense incurred by the government does not have any impact on companies' incentives to undertake more R&D activities. Therefore, the volume-based credit is a more efficient tool. To address the concerns of start-up companies which often incur a substantial amount of R&D expenses but have little tax liability to materialize a tax credit, a refund of the credit amount or the possibility to save the credit for the future use shall be available (e.g. a credit carry-forward up to 10 years). Contract research shall be eligible for the incentive as well provided that it is done at the taxpayer's risk and the taxpayer is the economic owner of the intellectual property.

Special tax treatment for research staff (exemption from income or payroll taxes or levying them at lower rates), similar to that introduced recently in Ireland, is also worth considering.¹¹ Although such measures are rarely likely to influence investment decisions, they may attract key individuals driving the R&D activity to the country. The employee incentive provisions particularly appeal to large multinational corporations while small and medium-sized enterprises are more likely to benefit from tax credits.

R&D tax incentives should be not only effective (successful in attracting R&D activities), but also efficient (its cost shall not exceed the value of the investment benefit). Offering too generous benefits may be too costly in terms of revenues forgone and, as a result of this, those benefits may be short-lived.

5.2. Compliance with EU law

In choosing the forms of tax incentives, compliance EU law must be ensured. Tax incentives must be general measures that are open to all companies operating within a country on an equal basis. Tax incentives that are aimed at a particular region or economic sector are considered to be specific and therefore open to investigation by the Commission. The Commission takes the view that in certain circumstances the provision of aid is necessary to promote economic and social development. To help Member States to determine whether R&D assistance provided by them is compatible with the common market, the European Commission issued several guidelines, e.g. "Community framework for State aid for research and development"¹² and "Commission notice on the application of the State aid rules to measures relating to direct business taxation".¹³

To ensure compliance with the fundamental freedoms, research carried out by permanent establishments of resident companies which are located in other Member States should be eligible for the incentives as well.

¹¹ In Ireland, under the Finance Bill 2012, companies will be able to use their R&D tax credit to reward key employees involved in the R&D process. This reward mechanism operates by allowing the company to surrender R&D credits to its key employees who can then claim the surrendered credits as a deduction against their own personal taxable remuneration (subject to not reducing their effective tax rate to less than 23%).

¹² Official Journal C 323/1 of 30.12.2006. This framework is applicable as of 1 January 2007.

¹³ Commission notice 98/C 384/03, published in Official Journal C 384 of 10.12.1998.

5.3. Investor-friendly tax system

An R&D tax regime cannot be analyzed independently of its institutional environment. Even the most generous tax credits will not be effective in promoting research as long as the “R&D detrimental” provisions of tax law are in place.

Tax systems of many countries include measures which hinder R&D activities. Strict thin capitalization rules are an obstacle to debt financing needed to cover research costs. The fact that the non-deductible interest may be carried forward does not provide much relief since in the lengthy R&D phase there are usually no or very little profits. Sometimes a loss carry-forward is disallowed if the ownership structure changes significantly, i.e. if a certain amount of share capital or voting rights in a company is transferred to new shareholders. This is particularly detrimental to start-up companies incurring losses from their R&D activities as they cannot attract new equity contributors. Such companies usually have only a limited access to debt financing and rely heavily on equity. Finally, the transfer of business functions abroad is subject to exit taxation. This may deter companies from establishing research centers in a particular country from the outset. They will set up research units abroad or engage foreign companies to do contract research for them instead.

5.4. Administrability and prevention of abuse

A very important consideration for a system of tax incentives are the administrative capabilities of a country. An otherwise good system can break down if the tax administration cannot handle it properly.

There is no point in introducing a tax incentive unless the tax administration is able to ascertain whether the incentive requirements are complied with. Valuation of intangibles or determining whether scientific equipment constitutes “qualifying expenditures” may prove to be difficult and time-consuming. Conditions attached to incentives are often related to ongoing performance (e.g. creating a given number of jobs) and require constant monitoring. Monitoring compliance may be burdensome and may even be beyond the capacity of the tax administration. It is important that administrative capabilities are taken into account when incentive legislation is drafted.

A related concern is the possibility of abuse of the legislation. Companies may establish R&D units in a country offering tax incentives and relocate them once those incentives are gone or no longer prove to be beneficial. A common form of abuse may be the incorrect use of transfer pricing. If an investor has two or more operations within a country or derives income from more than one source and if one of those operations, or one type of income, enjoys a tax preference, profits will tend to be allocated to the preferred category.

5.5 Alternative way: direct benefits

There are two key mechanisms through which governments can encourage businesses to increase their R&D activities: tax incentives and direct benefits which usually take the form of grants or preferential loans.

The direct funding of research has the advantage of allowing governments to retain control over the nature of R&D conducted. The cost of grants can be easily established, whereas the

cost of a tax incentives is frequently difficult to estimate. However, direct benefits can distort market competition as it is often left to the discretion of the government officials which companies receive financial assistance. Discretionary benefits may lead to corruption and often lack transparency.

Therefore, it seems advisable to keep the discretionary element to a minimum by eliminating the provision of direct benefits and switching to tax incentives which are more equitable in delivering state support to R&D activities. The qualifying conditions to obtain tax incentives should be set out clearly and in detail, so that potential investors may determine whether they qualify or not. Companies want front-up certainty as to their eligibility for incentives and want them delivered in a timely manner. They must be able to rely on the fact that the benefits will not be withdrawn if the project does not result in the desired outcome. Tax benefits require less administration and can be easier accessed than grant programs. They are also more effective in encouraging long-term research. Companies that meet the eligibility criteria of a tax incentive can reasonably expect to receive ongoing benefits when multi-year projects are undertaken. In contrast, funds from grant programs often depend on the budget made available by a grant authority in a particular year.¹⁴ If a country decides to have both forms of assistance, it is necessary to eliminate the risk of double financing of the same expenditures from both sources. It must be ensured that the overall amount of benefits does not exceed the qualifying expenses.

6. Conclusions

Tax competition may damage other countries' budgets, lead to overtaxation of labour and cutbacks in public services. However, it is also necessary to keep governments on their toes to be tax efficient. The continuing need to stay competitive implies that the demand for tax incentives is likely to increase, especially in time of economic downturn. The provision of financial assistance is necessary to encourage more private investments in R&D activities since high costs of conducting research are the primary impediment to performing them. While direct benefits ensure the necessary liquidity, tax incentives can be accessed more easily and are available to a larger number of beneficiaries.

To prevent a "race to the bottom", Member States should observe the state aid rules and comply with the principles laid down in the Code of Conduct: introduce transparent and clear rules which support real economic activity, apply the arm's length principle and encourage businesses of all sizes to invest in R&D. The global economy may reap benefits of competitive R&D environments if the competition between countries is based upon transparent and internationally accepted standards, including standards of international cooperation in tax matters necessary to counter the increased cross-border opportunities to unlawfully avoid or evade national taxes of other countries.

¹⁴ R. Hamilton, "Tax Incentives and Innovation: The Canadian Treatment of R&D", 19 *Can.-U.S. L.J.* 1993, pp. 239-240.