

Study on the impact of R&D tax incentives on investments of private companies into R&D



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Content of the study

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1. Introduction – purpose of R&D tax support

For years, governments tried to create an economic environment appropriate for technologically intensive economic activities. This is the case mainly in developed countries where the wage costs are relatively high and economies need to focus on activities that add higher value to products or customers. As part of this development, various European countries decided to use R&D-oriented tax incentives – R&D tax support – to stimulate higher investments by private companies into R&D. The same approach can also be seen on the level of the European Union. The Lisbon strategy, the EU's plan to become the most developed economic area in the world, has set a goal that by 2010 investments by individual countries into R&D will reach 3% of their GDP. 1% of this figure should represent investments by the state and 2% investments by private companies. So far, only Finland and Sweden have been able to achieve this. R&D tax support is meant to help companies to increase their investments into R&D and, as a consequence, to help EU member countries to meet the criteria of the Lisbon strategy. Nevertheless, the question remains whether R&D tax support is really stimulating private companies to increase their R&D investments.

2. Types of R&D support used in individual European countries

Czech Republic

The Czech Income Taxes Act enables companies to deduct up to 100% of R&D costs from their annual tax base in the form of a so-called R&D tax allowance. As the costs associated with R&D are generally regarded as tax-deductible, the eligible R&D costs can actually be deducted from the tax base twice. As there is a 21% corporate income tax rate in the Czech Republic for 2008, each CZK 1,000 of R&D costs will gain CZK 210 of tax benefit in 2008.

R&D tax support in the form of the 100% tax allowance was introduced in the Czech Republic in 2006. Activities eligible for R&D tax support must comply with the international definition of R&D activities published in the OECD's Frascati manual. A Company that intends to apply the R&D tax allowances must prepare a written project description which has a strictly given structure. The project description must be approved and signed by the Company prior to actual initiation of the work on the project. The deduction of R&D costs cannot be applied to services, licence fees or intangible results of R&D acquired from other persons (except for costs incurred for the purpose of certification of the results of the R&D). The deduction also cannot be applied to costs for which a public subsidy has already been provided. R&D tax support can be used in the following three taxable years if the company has no taxable base due to tax losses. If the Company is not sure whether the incurred costs are eligible to be deducted as an R&D tax allowance, it can ask the respective tax office to analyse its particular situation and issue a binding ruling in this respect. Taxpayers can use this opportunity for the first time in 2008.

United Kingdom

A tax incentive comprising immediate write-off for tax purposes of capital expenditure on assets used for scientific research has existed since the 1940s. Uptake was relatively low because the definition of scientific research led many to believe that only laboratory-based research qualified, and in any case, the benefit was often cash flow only.

In 2000, an incentive was introduced for Small or Medium-Sized Enterprises (“SMEs”) giving an additional 50% tax deduction for revenue spent on R&D with a new definition of R&D replacing “scientific research”. This emphasised the inclusion of development in qualifying activities. The 100% tax depreciation on capital continued, but was based on the broader R&D definition.

The extra 50% deduction is given to the SME incurring the expenditure whether the work is done in-house or contracted out, although if the SME contracts the work out then only 65% of the payment to the subcontractor qualifies for relief. As the rate of corporation tax has for a number of years been 30%, this extra deduction had a cash value of GBP 15 per GBP 100 of qualifying R&D expenditure. Crucially for SMEs, if a tax loss arises this can be “surrendered” to the government at the rate of GBP 24 for each GBP of R&D spent. The cash recovery is very important to claimants. This was a policy objective aimed at addressing the difficulty faced by start-up companies in securing funding.

As the objective was to address difficulty in obtaining funding, the SME R&D relief is not available for work where the SME already receives funding, for example a grant or work done as subcontractor for a customer. An additional requirement that the SME owns any intellectual property generated from the work is aimed at ensuring that only R&D done on the company’s own account qualifies.

The extra deduction has been increased from 50% to 75% for expenditure from 1 April 2008. The rate of UK corporation tax fell to 28% as at the same date.

In 2002, a similar revenue-based incentive was introduced for companies that were not SMEs (i.e., “large” companies), but the additional tax deduction is 25% of revenue spent and there is no opportunity to surrender losses for cash. The incentive is given to the person doing the R&D irrespective of who pays for it, so R&D done by a company for customers qualifies. The policy objective was to motivate multinationals to increase or retain R&D investment in the UK.

The rate of extra deduction for large companies has been increased from 25% to 30% for expenditure incurred on or after 1 April 2008.

Ireland

Ireland introduced an R&D tax credit from 1 January 2004 to encourage companies to expand their R&D activities in Ireland. This credit applies to incremental group expenditure on R&D over a base year, which is 2003 for calendar year-end companies. In addition to the corporate tax deduction of 10%/12.5%, the tax credit of 20% is available for qualifying expenditure, giving an effective tax deduction for such expenditure of 30/32.5%.

The credit is available to reduce the current year’s corporation tax liability. Any unused credit can be carried forward indefinitely to future periods. The tax credit is computed on a group basis – expenditure incurred by companies under common ownership (more than 50%) is aggregated and is apportioned between the members of the group as the group elects or, if no election is made, on a pro rata basis.

There is no credit for expenditure where it is met directly or indirectly by the State or any other person which is not a member of a group. Where grant aid is provided directly or indirectly by any Government agency, or public or local authority, no tax credit is available. Where a company incurs R&D expenditure which is reimbursed under a cost-sharing agreement, it will qualify for R&D tax credit in respect of the entire Irish R&D activities undertaken.

R&D expenditure incurred on plant and machinery that is not used exclusively for R&D purposes shall be apportioned on a just and responsible basis. Expenditure on plant and machinery may be treated as incurred on either (1) the date the plant and machinery is first put into use for trading purposes or (2) the date the expenditure becomes payable (subject to a clawback of the credit if the plant and machinery is not put into use within two years of the expenditure becoming payable).

Example:

Year ended 31 December 2006	
R&D expenditure 2003	EUR 5,000,000
R&D expenditure 2006	EUR 10,000,000
Incremental R&D spend	EUR 5,000,000
Tax deduction @ 12.5%	EUR 625,000
R&D credit	EUR 1,000,000
After-tax cost	67.5%

Territorialisation

A company must incur expenditure in carrying on R&D activities in the European Economic Area (EU member states, Iceland, Norway and Liechtenstein). To qualify for the credit, the expenditure must be tax-deductible only in Ireland and not in any other country (e.g., if the R&D expenditure is incurred in another EEA jurisdiction as a branch of Ireland).

An R&D tax credit is also available for capital expenditure on R&D building facilities. The credit is available for construction and refurbishment expenditure. It amounts to 20% of qualifying expenditure to be given over a period of four years. The tax credit is not limited to incremental expenditure. Any unused credit can be carried forward indefinitely to future periods or surrendered to other group companies in Ireland, if necessary. Where State aid is received or the expenditure is met by any person other than the company, no tax credit is available for that element of the expenditure.

There is a clawback of the credit where the facility is sold within 10 years or starts to be used for an activity other than an R&D activity.

Example:

Year ended 31 December 2006	
Capital expenditure R&D	EUR 10,000,000
20% tax credit	EUR 2,000,000
Annual tax credit 2006-2009	EUR 500,000

France

In France, tax incentives are granted in the form of *crédit d'impôt recherche (CIR)*. They are provided in the form of a tax allowance amounting to 30% of R&D costs that can be utilised up to the amount of EUR 100 million. Deduction of 5% of R&D costs applies for costs exceeding EUR 100 million.

Companies that claim the tax incentive for the first time can deduct 50% of R&D expenditure in the first year and 40% in the second year

Simplification to the French system of R&D tax support was introduced with effect from the beginning of this year, as now the tax support is provided only on the absolute volume of R&D expenditure. The previous incremental system has been abolished.

There is a specific form to fill in for the purpose of utilising R&D tax support. Direct subsidies granted to a company utilising R&D tax support must be deducted before the calculation of CIR. Each company can ask the tax authority for a preliminary estimation of the substance of the R&D expenditure.

Activities eligible for R&D tax support must comply with the international definition of R&D activities published in the OECD's Frascati manual.

In 2004, the decrease of the number of entities claiming tax incentives in their tax returns has led to the introduction of a combination of new volume-based tax allowances (5% deduction) and incremental-based tax allowances (45% deduction with the threshold of EUR 8 million).

Spain

Spain's system of R&D tax support contains several measures and is still evolving. R&D tax support available under Spanish tax law has the form of tax credits and free accelerated tax depreciation. Tax credits are provided for expenses related to R&D and technological innovation.

In particular, businesses undertaking R&D activities in Spain can deduct 25% of their eligible R&D expenses incurred in the current tax period from their gross tax payable. In the event that R&D expenses of the given year are higher than the average R&D expenses incurred in the two preceding years, a deduction of 42% shall be applied on the excess amount with respect to the average of the two preceding years.

Apart from this, an additional tax deduction of 17% can be applied to personnel costs of qualified researchers and another additional tax deduction of 17% can also be applied to R&D expenditure related to R&D projects contracted with universities or public research institutions (*Organismos Públicos de Investigación* and *Centros de Innovación Tecnológica*).

As for the activities of technological innovation, these activities qualify for a deduction from gross tax payable of 8% of expenses incurred for this item in the tax period. However, in the event that these activities consist of projects commissioned to universities or public research institutions, the deduction from gross tax payable amounts to 15% of the expenses.

Since this year, it is also possible to claim an allowance consisting of exoneration of up to 40% of social contributions for every new R&D worker hired by the company.

However, the company has to decide whether to use this type of support or the tax credit related to personal costs as described above.

Before the current system (as described above), the system of R&D tax support consisted of tax credit amounting to 30% that was applicable provided that R&D expenditure of the tax period was lower than the average amount of R&D expenditures incurred in the two previous years. If R&D expenditure of the tax period was higher than the average amount of R&D costs incurred in the two previous years, the tax deduction was 30% up to the average amount spent on R&D in the two previous years and an additional 50% of the amount representing the difference between R&D expenditure in the current tax period and the average amount spent on R&D in the two previous years ("bonus" for increased spending in R&D). Apart from that, additional tax deduction of 20% applied to R&D expenditure related to R&D projects contracted with universities or public research institutions. An additional tax deduction of 20% applied to personnel costs of qualified research and an additional tax deduction of 10% applied to investments into tangible and intangible assets used exclusively for the purpose of R&D.

Hungary

Hungarian legislation contains many tax measures aimed at the support of R&D activities. The main tax incentives meant to be aimed at R&D support are those in the field of corporate income tax and special tax, where the R&D costs are deductible from the pre-tax profits of the company, and as such a double deduction can be achieved. Additional direct tax credits are available in the area of corporate tax; however these tax incentives are linked to several criteria and administrative requirements. In the field of innovation contribution, the legislation also provides a tax credit opportunity for companies engaged in R&D activities.

In particular, the Hungarian legislation contains basically two types of tax incentives for R&D expenditure and investments: deductions from the corporate income tax base and tax credit that can be utilised to reduce the tax liability.

According to the Corporate Income Tax Act, either the direct costs of purchased or in-house R&D activities are deductible from the corporate income tax base in the tax year in which they were incurred, or, if the costs of purchased or in-house R&D activities are to be recorded as assets under the capitalised value of experimental development (an intellectual property), companies can decide to reduce their corporate income tax base by the amount of depreciation accounted for in the tax year in connection with those assets. According to the above, effectively double deduction of R&D costs is possible in Hungary. This measure was introduced in 1997.

In addition to the above, if the R&D activity is pursued with the co-operation and based on a written agreement concluded with institutes founded by universities or the Hungarian Academy of Sciences, the Company may claim three times the R&D costs as an extra deduction from its tax base, up to a maximum of HUF 50 million. The same tax-based deduction is available for the Company if the agreement is concluded with a similar institution of the European Economic Area. This measure was introduced in 2004.

Furthermore, Hungarian legislation offers specific tax incentive available on R&D investments (tax credit). This incentive is available for taxpayers investing at least HUF 100 million at present value into projects concerning R&D activity. In accordance with this regulation, the Company would be entitled to reduce its corporate income tax liability (at most up to 80% of the tax liability decreased by other tax relieves) by the adjusted amount invested, at present value. However, the entitlement to utilise this tax

incentive is subject to the fulfilment of several criteria specified in a separate government decree. This measure was introduced in 2003.

Another supporting measure contained in the Hungarian legislation is a special allowance for certain R&D costs. According to this measure, the corporate tax liability (up to 70% of the corporate income tax decreased by other tax reliefs) of the tax year and of the following three tax years may be reduced by 10% of the wages and salaries accounted for in the actual tax year as a direct cost of basic research, applied research and experimental development, or paid to a software developer. The utilisation of this tax incentive is applicable regardless of whether the opportunity to decrease the tax base is taken. This measure was introduced in 2005.

Apart from the above-mentioned R&D-oriented tax support, it is also possible to make use of the following two additional types of relief related to R&D activities. As of 1 September 2006, a 4% solidarity tax is levied on corporate entities. The solidarity tax is levied on the pre-tax profit reported in the financial statement adjusted by specific items. The solidarity tax base can be decreased by R&D costs of the company. The conditions for using the special tax base deduction are the same as detailed in the corporate income tax rules. This measure was introduced in 2006.

At the same time, companies are required to pay a so-called innovation contribution as of 2004 in Hungary. The innovation contribution of 0.3% is payable on the local business tax base, which is the net sales revenue, minus the value of material costs, the costs of goods sold, and intermediated services. The innovation contribution liability may be reduced by the costs of R&D performed in-house as well as ordered from private and public foundations or public organisations. This measure was introduced in 2004.

Poland

In Poland the main two measures aimed at support of R&D activities or innovative activities includes provision of a status of R&D-centre status that allows special tax exemptions and monthly write-off of expenditures to an Innovative Fund, and support aimed at purchase of a new technology.

R&D centre status may be granted to an enterprise by means of an administrative decision of the Minister of Economy taken after submitting a formal application. The conditions for receiving this status are the following: net revenues from the sale of merchandise, products and financial operations for the year preceding the year of submitting an application for granting R&D centre status must amount to at least EUR 800 000, net revenues from the sale of the results of the R&D activities carried out must amount to at least 50% of total revenues, and there must be no arrears in taxes and national insurance. Once the enterprise obtains R&D centre status, it may benefit from the real estate tax exemption, as well as rural and forest tax exemption.

Accompanying tax instrument aimed at supporting innovative activities is related to an Innovation Fund, which may be created within the R&D centre. The R&D entity is entitled to allocate to the Innovation Fund a monthly write-off amounting to 20% of the monthly income. This write-off constitutes tax-deductible cost. The resources of the Innovation Fund must be allocated to cover the costs of R&D activities carried out by the R&D centre in the given year.

Another supporting measure potentially aimed at support of R&D activities is the possibility to deduct from the tax base expenditure incurred for the purchase of so-called new technology. New technology is defined as technological knowledge in the form of intangible assets (in particular the results of R&D activities), which enables

production of new or highly improved products or services and has been used worldwide for a period not longer than five years. Fulfilment of the above conditions must be confirmed by an independent scientific unit. If the above-mentioned and other criteria are met, the enterprise can deduct from its tax base up to 50% of expenditure incurred on new technology.

As for other support related to R&D activities, after Poland's accession to the European Union entrepreneurs implementing new investments in the R&D sector/conducting R&D activities may apply for a grant from the EU Structural Funds. Some support for undertaking R&D activities may also be provided in the form of a corporate income tax exemption in a Special Economic Zone (SEZ) or in the form of regionally granted real estate tax exemptions.

3. Figures relating to R&D tax support and investments by private companies into R&D in individual European countries

In this part of the study we tried to find out the value of provided tax support in individual European countries in years when R&D tax support was available and the value of investments by private companies into R&D in these countries in years when R&D tax support was available. We were not always able to obtain all the data we considered necessary to measure the impact of R&D tax support on investments by private companies into R&D. We have also included additional statistical information that we found interesting for the purpose of the study and that was available in this part of the study.

Czech Republic

In 2005, companies utilised R&D tax support in the amount of EUR 111.8 million (CZK 3.3 billion). This represents a decrease in tax revenues of EUR 28.1 million (CZK 0.83 billion). Part of the allowance amounting to EUR 20.3 million (CZK 0.6 billion) was not utilised due to tax losses incurred in previous years.

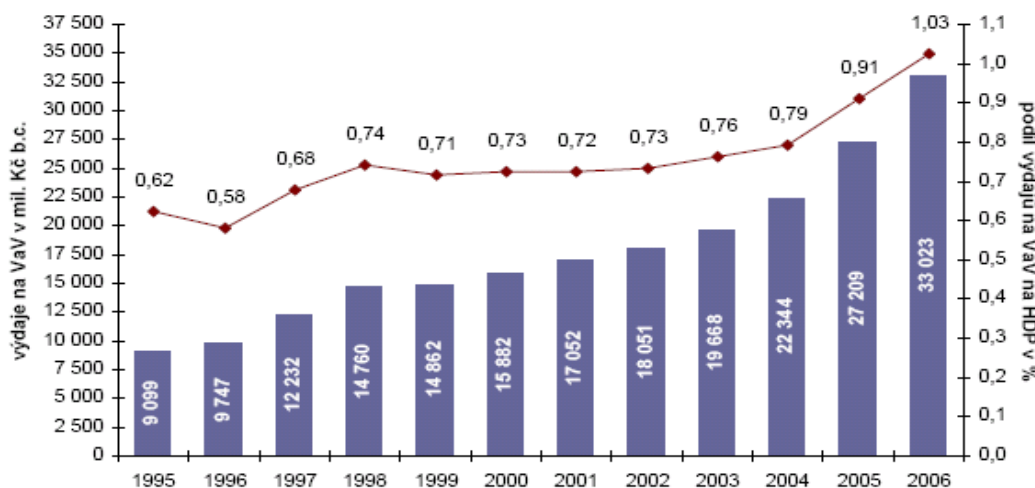
In 2006, companies utilised R&D tax support in the amount of EUR 141.6 million (CZK 4 billion). This represents a decrease in tax revenues of EUR 35.4 million (CZK 1 billion). Part of the allowance amounting to EUR 28.3 million (CZK 0.8 billion) was not utilised due to tax losses incurred in previous years.

In 2006, investments by private companies into R&D amounted to EUR 1.8 billion (CZK 49.9 billion). Compared to 2005, investments by private companies into R&D increased by EUR 272.5 million (CZK 7.7 billion), which represents an increase of 18.3% per year. On average, R&D expenditure of private companies grew 11.3% a year in the last six years. The growth was highest in the last two years, when it was around 20% a year. This growth is significant compared to 2001 and 2002, when it was about 5% a year, and 2003 and 2004, when it was 10% a year. R&D tax support in the Czech Republic was introduced in 2006 and companies could already make use of it in the same year, thus supporting increased investments by private companies into R&D that started in 2005.

The table

Overall investments of private companies into R&D in the Czech Republic and their ratio on GDP from 1995 to 2006.¹

Graf č. 2-10:
Výdaje užitě na VaV v podnikatelském sektoru ČR (BERD) a jejich podíl na HDP v období 1995-2006



In 2005, more than 452 tax payers made use of R&D tax support. In 2006, the number of taxpayers making use of R&D tax support increased to 553. This represents 0,18% of entities filing tax returns.

In 2005, 55.76% of entities utilised tax credit higher than CZK 1,000,000 (EUR 35,000). These entities utilised tax credit of EUR 108.5 million (CZK 3.2 billion), i.e., 97.79% of the total amount spent on tax incentives. In 2006, 76.77% entities utilised tax credit higher than CZK 1,000,000 (EUR 35,000). These entities utilised tax credit of EUR 138 million (CZK 3.9 billion), i.e., 97.48% of the total amount spent on tax incentives.

In 2005, 5.53% of entities which employed more than 1 000 employees utilised tax credit of EUR 64.4 million (CZK 1.9 billion), which is 56.46% of the total utilised tax credit. In 2006, 5.61% of entities which employed more than 1,000 employees utilised tax credit of EUR 74.3 million (CZK 2.1 billion), which is 51.69% of the total utilised tax credit.

In 2005, 47.47% of entities with annual net turnover exceeding CZK 100,000,000 (EUR 3.5 million) utilised tax credit of EUR 101.7 million (CZK 3 billion), which is 90.48% of the total utilised tax credit. In 2006, 49.73% of entities with annual net turnover exceeding CZK 100,000,000 (EUR 3.5 million) utilised tax credit of EUR 131 million (CZK 3.7 billion), which is 90.48% of the total utilised tax credit.

In 2005, tax incentives were concentrated in the following sectors: automotive industry, pharmaceuticals and chemistry (8,76%). In 2006, tax incentives were concentrated in the same sectors (i.e., automotive industry, pharmaceuticals and chemistry – 11,57%).

¹ [http://www.czso.cz/csu/2007edicniplan.nsf/t/80002BAB6A/\\$File/960107k2.pdf](http://www.czso.cz/csu/2007edicniplan.nsf/t/80002BAB6A/$File/960107k2.pdf), Český statistický úřad, II. Výdaje na výzkum a vývoj v České republice, p. 10

United Kingdom

R&D Tax reliefs is the biggest single funding mechanism for business R&D provided by the UK Government. Developed through consultation with business, they are at the heart of the Government's strategy to raise levels of business R&D and encourage business innovation.

The cost of support claimed increased from GBP 0.4 billion in 2002/03 to GBP 0.5 billion in 2003/04 and GBP 0.6 billion in both 2004/05 and 2005/06; more than 6,000 claims were received in both 2004/05 and 2005/06. In total, more than GBP 2.3 billion of support has been given to business R&D through R&D tax relief in the six years since its introduction in 2000.

In 2005/06 R&D tax relief was claimed against over GBP 6.7 billion of business R&D expenditure. Of this total, expenditure under the SME scheme totalled GBP 1.01 billion and claims including cash back and tax deduction totalled GBP 0.18 billion; total claims thus equated to about 18% of this expenditure. Expenditure under the large company scheme totalled GBP 5.7 billion and claims GBP 0.43 billion; claims equated to about 7.5% of this expenditure.

Detailed statistics on the amount of funding given and the number of claims made by SME and large companies are set out below.

Number of claims for the R&D tax credit by scheme and financial year, 2001-01 to 2005-06 ^{1 2}

	SME R&D scheme				Large company R&D scheme		
	Deductions from CT liability	Payable credits	Combination	TOTAL	Large companies	SME sub-contractors	TOTAL
2000-01	980	630	250	1,860			
2001-02	1,640	1,130	640	3,410			
2002-03	2,350	1,380	900	4,630	670	60	730
2003-04	2,920	1,290	950	5,160	970	120	1,090
2004-05	3,090	1,270	940	5,300	1,100	220	1,320
2005-06	2,900	1,070	900	4,870	1,160	280	1,440

¹The number of claims is based on the date that the accounting period covered by the claim ends.

²The figures are based on claims for the R&D tax credits made by companies in Company Tax returns received on or before 30 September 2007.

Note: The number of companies claiming R&D tax credits by financial year is as follows: 1,790 in 2000-01, 3,290 in 2001-02, 5,140 in 2002-03, 5,990 in 2003-04, 6,310 in 2004-05 and 6,000 in 2005-06.

Cost of support claimed for the R&D tax credit by scheme and financial year on an accounting period basis, 2000-01 to 2005-06¹

	SME R&D scheme			Large company R&D scheme		
	Deductions from CT liability	Payable credits	TOTAL	Large companies	SME sub-contractors	TOTAL
2000-01	10	60	70			
2001-02	20	150	170			
2002-03	30	180	210	180	*	180
2003-04	40	150	190	330	*	330
2004-05	50	140	190	390	*	390
2005-06	40	140	180	420	10	430

³ The figures are based on claims for the R&D tax credits made by companies in Company Tax returns received on or before 30 September 2007.

The total of Business Expenditure on R&D (BERD) and the amount of funding given by the government as R&D tax incentives in the UK in recent years is shown in the table below. It should be noted that the R&D tax incentive for SMEs was introduced for expenditure from 1 April 2000 and the R&D tax incentive for large companies (all companies that are not SMEs) was introduced for expenditure from 1 April 2002. Consequently, the R&D tax funding for these years reflects only part of that year's BERD.

Year	BERD			Tax funding		
	Total	large companies	SMEs	large companies	SMEs	total
	GBP 'm	GBP 'm	GBP 'm	GBP 'm	GBP 'm	GBP 'm
2000	11510	9412	2098	0	70	70
2001	11978	9876	2102	0	170	170
2002	12469	10005	2464	180	210	390
2003	12677	9481	3196	330	190	520
2004	12668	10365	2303	390	190	580
2005	13310	10936	2374	430	180	610

The BERD numbers above are derived from surveys performed by the Office for National Statistics (ONS) and reflect R&D performed in the UK only. Consequently, the numbers are significantly different to those derived from published financial statements which may include R&D performed overseas but included in the consolidated accounts of UK companies. It is felt that the ONS data more accurately reflects the volume of R&D which may qualify for the tax funding.

Ireland

The R&D incentive in Ireland was introduced in 2004. The number of claimants and the amount of relief claimed in the 2004 and 2005 periods (latest available data) were as follows:

	2004		2005	
	Value of tax funding EUR m	No of claimants	Value of tax funding EUR m	No of claimants
Less than EUR 10,000		28		40
EUR 10,000 to EUR 50,000		21		41
Over EUR 50,000		21		54
Total	70.5	70	65.2	135

Note: As the tax funding is given as a credit of 20% of qualifying expenditure, a claim with a value of less than EUR 10,000 suggests qualifying expenditure of less than EUR 50,000.

R&D performed by businesses (BERD) is the largest sector of research performance in the Irish economy. The latest BERD survey for 2005/6 shows that spending on R&D projects in the business sector continued to rise strongly. BERD rose to EUR 1.33 billion in 2005, and is expected to reach EUR 1.56 billion in 2006.

BERD in each year from 1999, expressed in EUR million at current prices, is set out in the table below. A survey of BERD is performed every second year (the latest being for 2005) so intermediate year numbers are estimated by interpolation.

Year	1999	2000	2001	2002	2003	2004	2005
BERD EUR million	784	842	900	1,003	1,105	1,217	1,329

France

From 1994 to 2003 the average annual amount spent on R&D tax support (CIR) was EUR 465 million².

In 2004, the annual amount spent on R&D tax support (CIR) was EUR 890 million (EUR 460 million of which was granted on the new, volume-based scheme)³.

In 2005, the annual amount spent on R&D tax support (CIR) was EUR 981 million. 7400 entities claimed R&D tax support (CIR) in their tax returns.

In 2007, the annual amount spent on R&D tax support (CIR) was EUR 1,4 billion⁴. With this figure, France ranks at the head of OECD countries that spend the most on R&D tax support.⁵ It is estimated that in 2008 the annual amount spent on R&D tax support (CIR) will be EUR 3 billion.

² Rapport Commission des finances de l'économie générale et du plan de l'Assemblée nationale, by Gilles Carrez, n.276, Volume III (page 43)

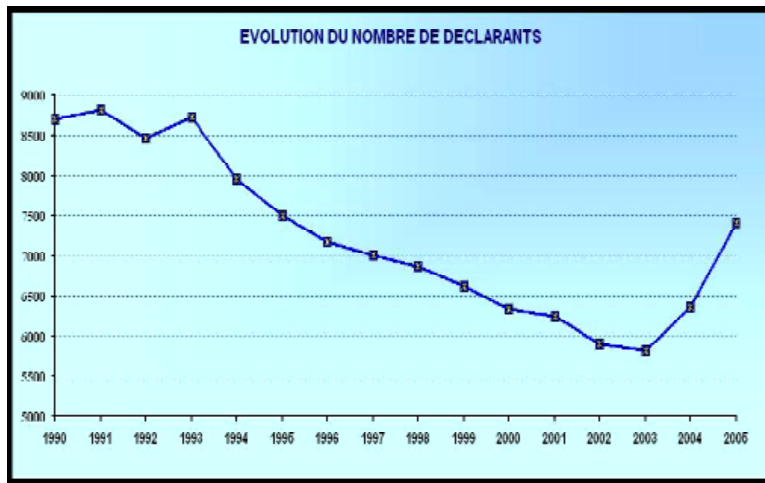
³ Rapport Commission des finances de l'économie générale et du plan de l'Assemblée nationale, by Gilles Carrez, n.276, Volume III (page 43)

⁴ www.recherche.gouv.fr/cid20358/le-credit-d-impot-recherche-cir.html

⁵ Idem

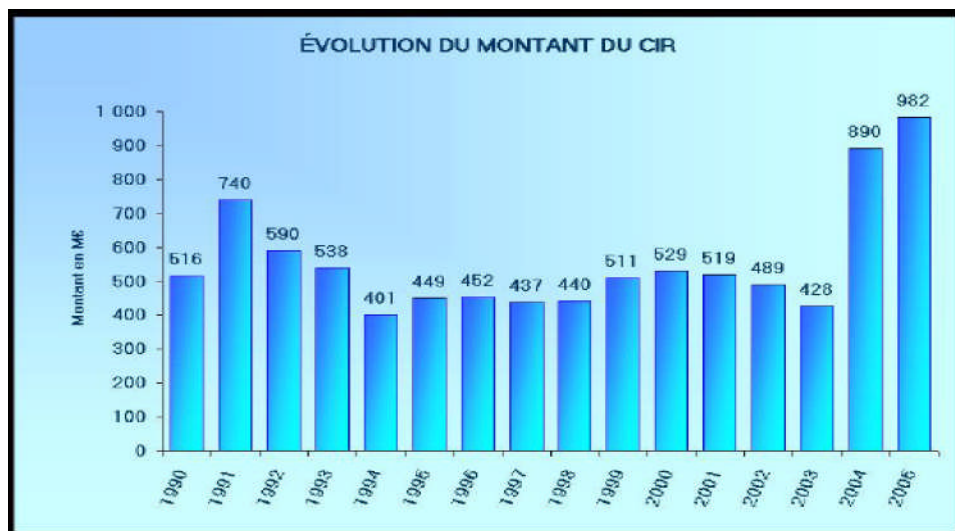
The table

Evolution of number of entities claiming tax incentives in their tax returns, 2005⁶



The table

Evolution of annual amount spent on tax incentive ("CIR"), 2005⁷



As for the value of investments by private companies into R&D, in 2004 the expenditure of private companies on R&D represented 52% of total R&D expenditure in France. This represented expenditure of private companies into R&D in the amount of 1,36% of France's GDP. Overall investments into R&D in France amounted to 2,23% of its GDP in 2004.⁸

In 2005, total domestic expenditure on R&D amounted to EUR 36.7 billion. This represented 2.13% of the GDP of France.⁹ The total amount spent on R&D by companies in 2005 was EUR 13.5 billion.¹⁰

In 2006, total domestic expenditure on R&D was 2.12%.

⁶ <http://media.education.gouv.fr/file/42/2/20422.pdf>, Le Crédit d'impôt recherche, p. 4

⁷ <http://media.education.gouv.fr/file/42/2/20422.pdf>, Le Crédit d'impôt recherche, p. 4

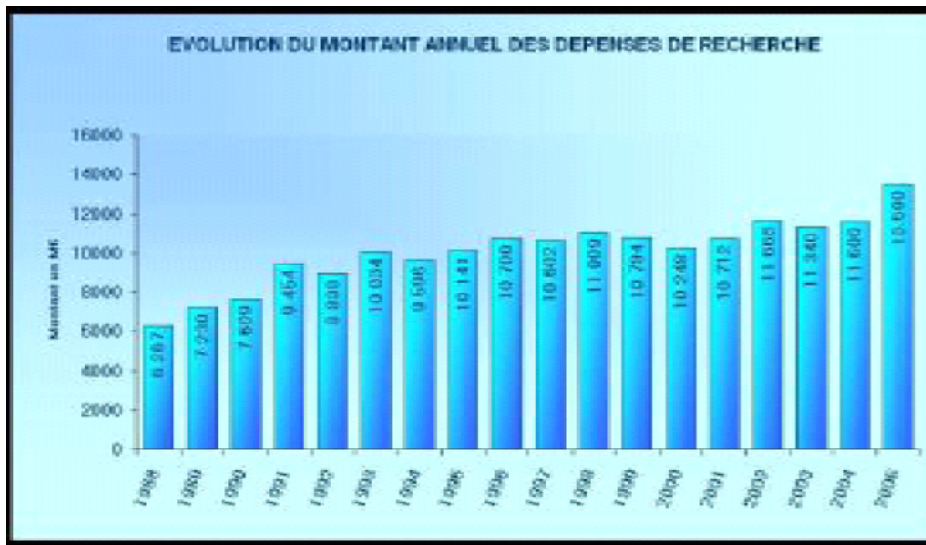
⁸ www.journaldunet.com/management/dossiers/0509101recherche_developpement/lead.shtml, Article : R&D:les entreprises qui cherchent le plus

⁹ <http://media.education.gouv.fr/file/72/7/20727.pdf>

¹⁰ www.media.education.gouv.fr/file/42/2/20422.pdf, LE CREDIT D'IMPOT RECHERCHE, p.1

The table

Evolution of the annual amount spent on R&D, 2005¹¹



In 2004, the number of recipients of R&D tax support (CIR) was 6500 compared to 2384 companies in 2003¹² and 2760 in 2002¹³. R&D investment was concentrated mainly in the following sectors: automobile, pharmaceuticals, telecommunications and aeronautics. Major R&D investors included Renault (automobile) investing 5.1% of its turnover, Sanofi (pharmaceuticals) investing 16% of its turnover, EADS (aeronautics) investing 7,7% of its turnover and France Télécom (telephone industry) investing 1.6% of its turnover.

In 2005, R&D investments again concentrated mainly in the following sectors: automobile, pharmaceuticals, telecommunications and aeronautics. R&D investments in these sectors represented 53% of domestic R&D expenditure of private companies.¹⁴ The most significant amounts are spent on salaries of research workers and on operating costs.

In 2006, the Ministry of Research in France prepared an econometric study comparing evolution of the R&D expenditure of companies utilising tax incentives and those not utilising them. The study showed that technological intensity (i.e., the relation between R&D personnel and all personnel) is much higher in companies utilising tax incentives, that utilisation of R&D tax support (CIR) produces a lever effect – the annual average growth rate of R&D expenditure in a company using R&D tax support is about 7% compared to a 10% decrease in a company that invests into R&D but is not utilising R&D tax support¹⁵ and that EUR 1 of utilised R&D tax support (CIR) generates EUR 1 – EUR 3 of additional R&D expenditure.

¹¹ <http://media.education.gouv.fr/file/42/2/20422.pdf>, Le Crédit d'impôt recherche, p. 4

¹² <http://www.enseignementsup-recherche.gouv.fr/cid20248/le-credit-d-impot-recherche-c.i.r.html>, up-date Decemeber 2007

¹³ <http://www.industrie.gouv.fr/sessi/cpci/cpci2006/2c.pdf>

¹⁴ <http://media.education.gouv.fr/file/72/7/20727.pdf>

¹⁵ [www.media.education.gouv.fr/file/42/2/20422.pdf](http://media.education.gouv.fr/file/42/2/20422.pdf), Mesure de l'impact du CIR, page 3

Spain

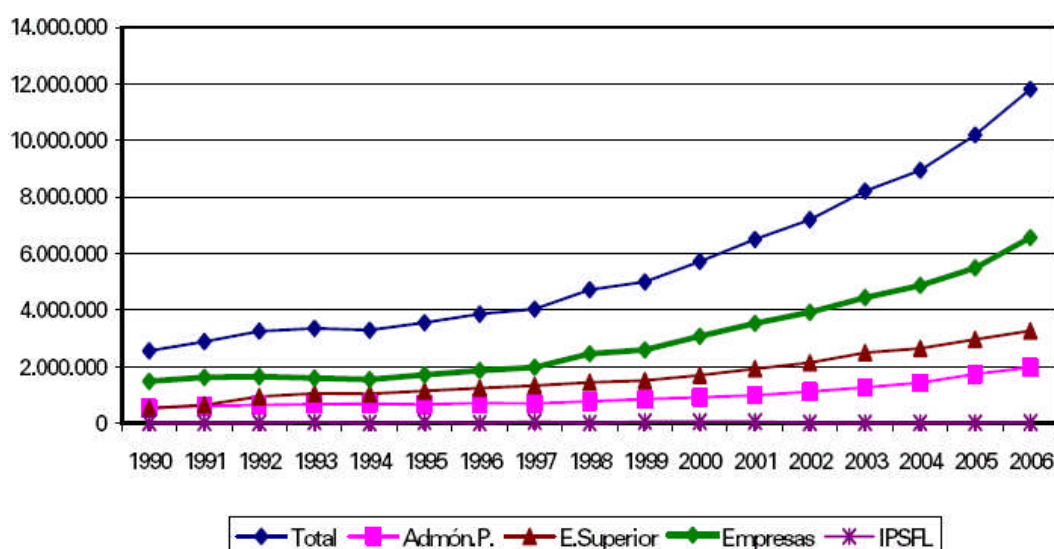
We were not able to obtain the exact figure for the value of tax support provided in Spain. From public sources we found out that R&D tax incentives were utilised by 6,000 companies, i.e., 0,5% of the total number of companies in 2007.¹⁶ 85% of tax incentives were utilised by big companies.

As for the value of investments by private companies into R&D, in 2006 the total amount spent on R&D in Spain was EUR 11,8 billion. This represents 1,2% of GDP. In 2005 investments into R&D represented 1,12 % of GDP. This brings a year-on-year increase of 16% in 2006, which is the highest increase in the last eight years. Nevertheless, average investments into R&D in the EU amounted to 1,83% of GDP in 2006. The number of companies carrying out R&D activities was 47,000. This represents an increase of 15% when compared with 2005.

Companies spending the most on R&D in Spain are in the following industry sectors: pharmaceuticals (EUR 600 million), aeronautics (EUR 400 million – this represents an increase of 40%) and communications (EUR 350 – this represents an increase of 216%).¹⁷ However, in 2006, only 15 Spanish companies were listed among the 1,000 top European companies that invest the most into R&D. These are, for instance, Telefónica (amount invested into R&D in 2005: EUR 588 million), Amadeus IT Group (amount invested into R&D in 2005: EUR 182 mil), Indra, Repsol, Industria de Turbo Propulsores and others.¹⁸

The table

Evolution of investment into R&D in Spain (thousand euros)



¹⁶ http://www.cincodias.com/articulo/economia/deduccin/fiscal/I/D/solo/llega/6000/empresas/cdscdi/20070525cdscdieco_4/Tes/#

¹⁷ [http://www.cincodias.com/articulo/economia/empresas/espanolas/aceleran/inversiones/I/D/cdscdi/20071121cdscdieco_2/Tes/, Raquel Pascual / MADRID \(21-11-2007\)](http://www.cincodias.com/articulo/economia/empresas/espanolas/aceleran/inversiones/I/D/cdscdi/20071121cdscdieco_2/Tes/, Raquel Pascual / MADRID (21-11-2007))

¹⁸ http://www.cotizalia.com/cache/2007/10/31/27_bruselas_suspende_empresas_espanolas_inversion_telefonica.html#

Hungary

We did our best to collect information on the value of provided tax support during the time R&D tax support has been available in Hungary, but despite our efforts (including extensive research of many sources and contacting the responsible institutions), unfortunately we did not succeed in obtaining these data in time for inclusion in the study. However, we contacted the responsible authorities in order to find out whether this information is available in Hungary.

As for expenditures by private companies into R&D, these have grown steadily in recent years in Hungary. However, in 2004, 2005 and 2006 they reached higher amounts and were growing more quickly than in 2001, 2002 and 2003. In 2001, 2002 and 2003 expenditures by private companies into R&D reached EUR 199 million (HUF 49 billion), EUR 216,2 million (HUF 51 billion) and EUR 206 million (54 billion) respectively, which represented year-on-year growth of only 4% (from 2001 to 2002) and 5.9% (from 2002 to 2003). While in 2004, 2005 and 2006 expenditures by private companies into R&D reached EUR 273,7 million (HUF 67,3 billion), EUR 324,5 million (HUF 82 billion) and EUR 408,2 million (HUF 103 billion), which represented year-on-year growth of 24.9% (from 2003 to 2004), 21.7% (from 2004 to 2005) and 25.7% (from 2005 to 2006).

The biggest investor into R&D in Hungary is the state budget, which is the source of almost 50% of total R&D expenditure in Hungary. However, the private sector is gradually matching investments from the state budget. In 2004 the state budget invested 39.6% more into R&D than private companies did. In 2005 this difference was 25.3%. In 2006 the difference between investments from the state budget (EUR 422,1 million/HUF 106,5 billion) and investments by private companies (EUR 408,2 million/HUF 103 billion) was only 3.4%, despite the fact the state expenditure into R&D was still growing in individual years.

Poland

We did our best to collect information on the value of provided tax support during the time R&D tax support has been available in Poland, but despite our efforts (including extensive research of many sources and contacting the responsible institutions), unfortunately we did not succeed in obtaining these data. It appears from our conversations with the Ministry of Finance and the Statistical Office that such information is not available.

As for value of investments by private companies into R&D, in Poland the biggest investor into R&D is the state, which invested 57.7% of total expenditure into R&D in 2005. The total expenditure on R&D amounted to EUR 1.6 billion (PLN 5.5 billion) in 2005. This represented an increase of more than EUR 118 million (PLN 400 million) as total expenditure on R&D amounted to EUR 1.5 billion (PLN 5.1 billion) in 2004. In total, expenditure into R&D in 2005 represented less than 1% of the GDP of Poland.

4. Summary of findings

Lack of relevant information

When preparing this study we were surprised to find that in many countries it is not possible to obtain the relevant data concerning the value of support provided to private companies through various support measures of a tax nature that are meant to support R&D activities. If it is possible to measure the impact of R&D tax support on investments by private companies into R&D, these data need to be available in order

to be able to track the relation between costs of R&D tax support in individual countries and development of investments by private companies into R&D.

Non-transparent system of R&D tax support throughout Europe

When putting together this study, again it became painfully clear to us that with respect to the very different systems of R&D tax support in individual European countries this non-transparency significantly decreases Europe's competitiveness as a place that supports R&D activities. Some countries offer automatic tax allowances that can be utilised without any difficult administrative barriers; some countries offer support that is based on the decisions of the state authorities. Some systems are volume-based, while others are increment-based. Each system uses a different percentage to set the level of support. Some countries differentiate between whether the R&D activity is undertaken by an SME or by a large enterprise. Many countries use combinations of different support measures. As a consequence, R&D tax support measures can play only a very limited role in the decision-making processes of companies relating to their investments into R&D. They are more likely to be relevant separately – on a national level as an item decreasing tax the burden rather than having a regional impact and a motivating effect on companies deciding where to locate their new investments.

Comparability of information on the value of support provided for R&D activities

We were not able to obtain all the relevant information relating to the value of R&D tax support provided in individual countries. However, as the system of R&D tax support in Europe is so different, even if we had been able to obtain this information it would be very difficult to compare as various support measures are meant to motivate different activities (e.g., new investors, SMEs, incremental investments).

Relative importance of R&D tax support for decisions of companies relating to their investment plans in R&D

Even though policy makers do mention the importance of R&D tax support for increasing companies' motivation to invest into R&D, it is fair to say that there are other aspects that are more important for companies deciding how much and/or where to invest into R&D. Therefore, R&D tax support can be only an accompanying measure that will increase companies' motivation to invest into R&D. The possibility to secure sufficient number of qualified workers for R&D and to establish close ties with a universities that will be able to contribute significantly to R&D undertaken by private companies and the innovative tradition of the economy or the infrastructure favourable for undertaking R&D activities will always be more important factors influencing the level of investments by private companies into R&D. Apart from that it is important to mention that with respect to the value of R&D tax support in some countries, foreign exchange fluctuation or wage inflation can play a much more significant financial role for companies deciding about R&D investments than R&D tax support.

Relation between R&D activity and R&D tax support

From our experience with helping to companies to claim their R&D tax support, we can conclude that quite often there is no direct link within companies between the R&D unit and workers working in it and the financial unit and its employees. R&D workers are usually not motivated to think of potential R&D tax support and internal systems are usually set in such a way that provision of data to claim R&D tax support only creates an administrative burden for people working in R&D. This, in the end, also significantly decreases efficiency of R&D tax support and its overall motivational effects.

5. Conclusion

We were not able to obtain all the data we were expecting to get in order to prepare this study; however, based on the time that we spent on the study, we were able to arrive at some findings, and these are summarised above. We consider this study mainly a starting point for collecting better data for measuring the impact of R&D tax support on investment by private companies into R&D in Europe. To measure this impact, it will first be necessary to enhance the quality of data available in individual countries related to the value of R&D tax support provided to companies. We are aiming to perform this analysis in more detail and in more territories and would welcome if governments and institutions made efforts to collect better quality data on this topic. We believe that collection of this data will help governments to design their tax support measures for R&D more effectively. We are prepared to contribute to discussions simplifying R&D tax support measures throughout Europe and believe that through this discussion and simplification of the R&D tax support system in Europe it will be possible to increase the importance of R&D tax support for companies, which could, in turn, help towards greater efficiency of the R&D tax support that is being provided by individual European countries.

