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## **INDIRECT SUPPORT OF RESEARCH AND DEVELOPMENT ACTIVITIES IN THE CZECH REPUBLIC**

Czech research does not have an extra sound in the world. When foreign researchers plead at their Czech colleagues, it is usually in the areas of engineering, mathematics or computer science because these are the only areas where Czechs score above average in the world scale<sup>1</sup>. Other ten branches (materials engineering, physics etc.) are around average and the rest 22 Czech observed research branches are subnormal. (Economy and business branch ranks as worst!) The „bad name” of Czech science is a logical consequence of the long-term dismissive attitude of our politicians, economists and business sector toward research and science after the „Velvet” revolution in 1989. Although, an increase of R&D support should precede or at least „accompany” any economy restructuring, the Czech R&D has undergone an exactly opposite process. The total R&D expenditure expressed as a per cent share of GDP has declined sharply between 1989 and 1995. Since then, it started to rise, but very slowly. In 2000, the expenditure reached only the level of the year 1993 – 1,3% GDP, corresponding to only 67% of the EU average and less than 50% of then expenditure in the US (2,72% of GDP) and Japan (2,98% of GDP).

### **Action plan for Europe – follow – up to Lisbon Strategy**

To bridge the growing gap in the levels of research investment between Europe and its main trading partners, European Union has been carrying out actions that should give Europe a stronger public research base and make it much more attractive *to private investment in research and innovation*. The March 2000 Lisbon European Council set the objective to „**make Europe the most competitive and dynamic**

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<sup>1</sup> Source: American Institute for Science Information (ISI).

knowledge-base economy by 2010". Following objective set by the March 2002 Barcelona European Council aims at increasing of the average research investment level from 1.9% of GDP today to 3% of GDP by 2010, of which 2/3 should be funded by the private sector. It means an increase of the expenditure by 50% (and even more considering the fact that new member countries (2004) will pull down the average in the EU within this decade. Also Czech Republic has reacted to the appeal of European Commission and joined the activity called: „On the way to 3% GDP – more research for Europe”.

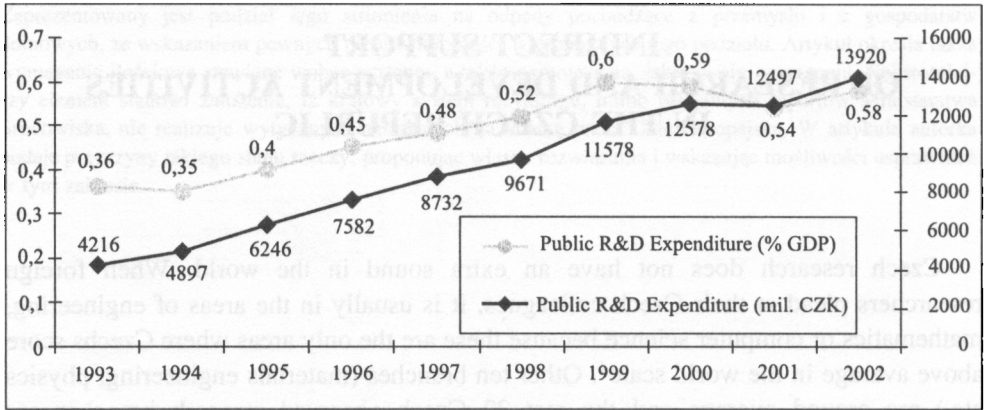


Fig. 1. Development of Public R&D Expenditure in the Czech Republic, 1993-2003

Source: own study.

Generally, there are four possible sources of R&D expenditure in each country: *public budgets, business sector, foreign investments and non-profit organizations*. In the countries of European Union, about 35% of total R&D expenditure is financed by public budgets, 57% by business sector and 7% by foreign companies (year 2000). In the Czech Republic, the relevant shares are 45, 52 and 3%. Compared to countries with the highest R&D expenditure and the best R&D achievements such as Finland, the U.S. and Japan, the shares of public expenditure<sup>2</sup> for the same year were 26, 26 and 20%, much lower at the expense of expenditure made by business sector – 70, 73 and 71%.

The structure of the total expenditure in the developed countries may signify that the best way how to increase the total R&D expenditure is to increase expenditure of private sector. Increasing public support to research and innovation goes hand in hand with improving its effectiveness, in particular its leverage effect on private investment. There is scope for making a more effective use of the various public financing instruments, individually and in combination: **direct measures and fiscal incentives, guarantee schemes, support of risk capital** that stand for **indirect measures**. A mix

<sup>2</sup> Source: Main Science and Technology Indicators 1/2003/ (MSTI).

of instrument is needed as no single instrument can address optimally the needs of all segments of industry. Direct measures and fiscal incentives can be used for large firms as well as SMEs, while guarantee and risk capital schemes concerns mainly SMEs.

In fact, a combination of both direct and indirect supports has been fully verified and well accepted tool of state R&D policies in EU and OECD countries. Unfortunately, this approach is being still missing in the Czech Republic and an application of some kind of indirect support is rather an exception. It is estimated that the volume of indirect support corresponds to only 1% of direct public support while in the EU and OECD countries it is above 25%!

Besides the deductibility of all R&D expenses from taxable revenues there are especially following tax relives and advantages for commercial research and development in the countries of EU and OECD:

a) **Tax credit** as a percent deduction of a calculated and due tax. It may be in the form of either a flat rate from the whole volume of R&D expenses or an incremental rate of increased year R&D expenses against the previous year. Over the last years, this tool has become more popular.

b) **Accelerated depreciation** of R&D investment property (expenses). It enables to amortise up to 100% of a purchased investment property already in the first year.

c) **Special tax incentives**. On the first place, it is meant as a kind of support for human resources in R&D. It may be in a form of tax abatements for new R&D jobs formation....

d) **Tax relieves for small and middle-sized enterprises** with orientation to high-tech branches that either carry on R&D or use its outputs.

e) **Tax stimulation for risk capital** – tax exemption for capital yields if invested in R&D activities, lower taxes for shareholders' incomes etc.

## Recapitulation of indirect support for R&D in the Czech Republic

From the point of view of the Czech Republic, some tools of indirect support to research activities are for Czech R&D of **primary interest** and some tools come as **secondary** ones.

The first group of tools should include:

1. Reduction of income tax basis by profits used as a support for R&D activities  
Actual situation:

The only reduction of this kind is determined by the Law No. 586/1992 Coll. about income taxes in the § 20 par. 7 in the sense that only taxpayers who were not founded for any entrepreneurial activity may deduct up to 30% of their tax base and maximum 1 million Czech crowns in the following three tax periods if they use the money for financing of R&D activities.

Problem:

This exemption is not of any support for business sector and such as does not motivate business to invest in R&D.

Proposal:

To extend the relief also to business sector and shift the upper limit up.

## 2. Creation of reserves for risk research as a tax recognized expense

Actual situation and problem:

Not enabled in the Czech Republic so far.

Proposal:

To complement the Law No. 586/1992 Coll. about income taxes by a note that also reserve for own or purchased R&D is a tax deductible expense.

## 3. Accelerated depreciation (amortization) of expenses on a purchase of investment property

Actual situation:

The shortest time of depreciation is 4 years for the depreciation group 1 and there is no exact citation (definition) of equipment for both basic and applied research in any of the five groups. It is possible to deduct 10 percent of a purchase price at maximum in the first year of utilization.

Problem:

Especially equipment, devices and technologies in the area of research and DEVELOPMENT become out of date very quickly, their purchase costs are very high and their products usually have the shortest life cycle. Therefore, the shortest possible amortization would accelerate a gathering of financial means for purchasing the latest equipment.

Proposal:

To define exactly R&D devices and equipment in the frame of the first group and enable an accelerate amortization with lower (faster) coefficient for example 2? Or to increase the first year tax recognized expense from 10 to for example 20 percent.

The second group of indirect support tools which should come as additional ones could perhaps include:

### 1. Gift (inheritance) tax exemption for the gift receiver

Description

This tool enables to exempt a property donated (or inherited) for the R&D purposes prospectively other gifts if donated to an organization dealing in R&D area as its main activity.

Actual situation:

The gift (prospectively inheritance) taxes are determined by the Law No. 357/1992 Coll. about inheritance tax, gift tax and conveyance of real estate tax. Only the § 20 refers to R&D when it exempts a gratuitous transfer of a property dedicated to funding of cultural, educational and R&D institutions and humanitarian activities.

Problem:

This exemption does not refer to gifts to a „legal” entity which was not founded exactly for one of the purpose even though it would receive a gift or a heritage for the purpose of R&D activities.

**Proposal:**

To extend the exemption also to gifts for commercial institutions which were founded for other purposes but besides are doing a research for which they get the financial (or other) gifts.

**2. Tax relieves for formation of new job positions in R&D****Description**

Relieves would enable taxpayers to create new job opportunities in R&D especially for young PhD graduates (with an upper age limit for example 30 years).

**Actual situation and problem:**

There is no such a relief available in the Czech tax system so far. Although the Czech active employment policy includes some advantages for hiring graduates in general.

**Proposal:**

To enable taxpayers to deduct some amount from their income basis for each new position in the R&D branch for PhD graduate. The tax reduction could be provided on a similar basis as for employing of people with reduced working ability.

**3. Tax incentives for risk capital****Description**

Tax relieves for risk capital – start up capital, invested especially into dynamic companies oriented to research and innovation activities.

**Actual situation and problem:**

Czech tax system has not been determining a risk capital so far.

**Proposal:**

To enable shareholders of companies that invest more than 50 of their capital to research and development to exempt capital yields from income taxes.

## **Conclusion**

In a reaction to the above proposed changes of the Czech tax system, some legislative modifications should come as first:

- implementation of a tax credit,
- extension of tax relieves to donations (gifts) made to R&D activities for both a donee and a donor,
- accelerated depreciation of an equipment and fixed assets purchased for R&D purposes,
- tax incentives for risk capital, formation of new job positions for young researchers and so on.

## References

- [1] Main Science and Technology Indicators, 1/2003, OECD.
- [2] <http://www.mpo.cz> – web sites of Czech Ministry of Industry and Trade.
- [3] <http://www.vyzkum.cz>, Analysis of the Existing State of Research and Development in the Czech Republic and a Comparison with the Situation Abroad – 2003, R&D Council, Government of the Czech Republic.

## POŚREDNIE FINANSOWANIE DZIAŁAŃ NA RZECZ BADAŃ I ROZWOJU W REPUBLICIE CZECH

### Streszczenie

Artykuł opisuje sytuację działań na rzecz badań i rozwoju (B&R) w Republice Czeskiej ze szczególnym uwzględnieniem struktury wydatków dotyczących tego obszaru. Ogólnie rzecz biorąc, istnieją dwaj główni inwestorzy: państwo – poprzez wydatki budżetowe oraz sektor biznesowy. Doświadczenia najbardziej rozwiniętych krajów ukazują, że wydatki publiczne powinny pociągać za sobą prawie trzykrotnie większe wydatki sektora biznesowego. Zarówno w Republice Czech, jak i w pozostałych krajach Unii Europejskiej proporcja ta nie jest osiągnięta ze względu na relatywnie niewielki udział sektora biznesowego. Bezpośrednie finansowanie z sektora publicznego jest ograniczone koniecznością finansowania innych ważnych obszarów, dlatego niebezpośrednie finansowanie B&R stało się bardzo popularne jak również wysoce akceptowane, szczególnie w krajach rozwiniętych. W artykule przedstawiony został aktualny zarys i poziom niebezpośredniego finansowania B&R w Republice Czech, jak również zasugerowane zostały możliwości poszukiwania „ulepszeń” w tej dziedzinie.