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Švaljek, Sandra

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R&D TAX INCENTIVES IN CROATIA: BENEFICIARIES AND THEIR BENEFITS

SANDRA ŠVALJEK
INSTITUTE OF ECONOMICS ZAGREB
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ABSTRACT

This paper aims to answer basic questions regarding the implementation of the R&D tax incentives currently used in Croatia, such as: how many companies benefit from these incentives, what are the characteristics of those companies, to what extent do the R&D tax incentives reduce the these companies' tax liabilities etc. According to the available data for 2008 and 2009, R&D tax incentives have resulted in a considerable savings for their beneficiaries, pushing the effective profit tax rate significantly below the statutory rate. The distribution of financial benefits from R&D tax credits was pronouncedly unequal, with big companies having above proportional share in total financial benefits. Major part of the R&D tax incentives went to the companies in Manufacture of radio, television and communication equipment and Manufacture of chemicals, chemical products and man-made fibres. More than 90 percent of total incentives were obtained by forms located in the County of Zagreb and City of Zagreb.

Keywords: R&D, tax incentives, Croatia

1 INTRODUCTION

In Croatia the R&D tax incentives are, in their current form, applied in 2007 and so far there was no empirical study on their size, scope and the effectiveness. This paper tries to fill this gap. It aims to answer the basic questions regarding the implementation of the R&D tax incentives in Croatia, such as: how many companies benefit from these incentives, what are the characteristics of those companies, to what extent do the R&D tax incentives reduce the these companies' tax liabilities etc. More sophisticated analysis of the effectiveness of R&D tax incentives is beyond the scope of this paper. In the first section the paper describes the evolution of R&D tax incentives in Croatia. The second section gives and overview of the financial benefits resulting from the R&D tax incentives. Third section presents a more detailed assessment of the structure of the beneficiaries by their size, economic sector and location. The last section concludes.

2 THE EVOLUTION OF R&D TAX INCENTIVES IN CROATIA

The impact of R&D expenditures on innovativeness, technological development, competitiveness and growth is undisputable. Therefore, the European Union underpins its ambition to become the most competitive economy by setting a goal to increase the share of

R&D expenditure in GDP until it reaches at least 3 percent (European Commission, 2010). In order to meet that goal, EU members implement a variety of policy measures. The use of fiscal incentives such as R&D tax incentives is widely spread in that respect, although the empirical evaluation of their effectiveness measured by input additionality, innovation additionality or output additionality do not provide a unambiguous justification of that policy option (see e.g. Expert Group on R&D Tax Incentives Evaluation, 2008).

For the first time, tax incentives for R&D were introduced into the Croatian tax system in October 2003 by the Act on Amendment of the Profit Tax Act (NN 163/2003). The Act has defined what is to be considered as research (fundamental and applied), and what is to be considered as development. The tax incentives consisted in a right to deduct the expenditures for R&D in a double amount and the acquisition of non-material assets in full amount from the profit tax base.

The expenditures on R&D that were allowed to be additionally exempt from the tax base were wages and other indirect costs of persons taking part in R&D, expenditures for material and services used in R&D activity, depreciation of immovable property, plants and equipment in the proportion in which they are used for R&D, depreciation of patents and licences in the proportion in which they are used for R&D, overhead costs apart from the general administration costs and the costs of R&D activities that were carried out by another person and that were commissioned by the taxpayer. In addition, by the new Profit Tax Act that came into effect on January 1st 2005, companies registered exclusively for R&D activities were fully exempt from paying profit tax (NN 177/2004).

These R&D tax incentives were abolished in 2006 since the European Commission considered them not to be in line with the Stabilization and Accession Agreement and, since basically selective, not in line with the *acquis communautaire* (NN 57/2006). From the beginning of 2007 until the mid-May R&D tax incentives were not in place at all, and after that they have appeared not in the tax laws, but in the Scientific Activity and Higher Education Act. The R&D tax incentives that were introduced by that act are fully aligned with the community state aid framework[1].

According to the Act on the Amendments to the Scientific Activity and Higher Education Act (NN 46/2007) aid for research and development and innovation projects may be awarded for categories of fundamental research, industrial and development research, technical feasibility studies and innovation.

Taxpayers of the profit tax are allowed to lower their profit tax base additionally by 150 percent of the eligible costs for fundamental research, 125 percent of the eligible costs for industrial research, and 100 percent of the eligible costs for development research. Total amount of the aid awarded, based on all the possible grounds, cannot however, be higher than 100 percent of eligible costs for fundamental research, 50 percent of eligible costs for industrial research and 25 percent for development research.

In the case of small enterprises these percentage points for industrial and development research can be increased by 20 percentage points and in the case of medium-sized enterprises by 10 percentage points.

Eligible costs may include personnel costs for employees engaging exclusively in research activities, costs of instruments, equipment and property (building and land) used exclusively and continually for research activities, costs of contractual research, technical know-how and patents, costs for advisory and similar services intended exclusively for research activities, and additional overheads and other operating expenses incurred directly as a result of research and development.

[1] See: Decision on the publication of rules on state aid for research and development and innovations, NN 84/2007.

State aid for technical feasibility studies may be awarded for costs of studies which are a preparation for industrial research of small and medium-sized enterprises up to 75 percent of eligible costs, or 65 percent to large enterprises. For studies which are a preparation for a development research of small and medium-sized enterprises state aid may be awarded for up to 50 percent of eligible costs, and 40 percent to large enterprises.

The classification of projects and eligibility of costs is verified by the Ministry of Science, Education and Sports, and the process of the verification is regulated by the Regulation on State Aid for Research and Development Projects (NN 116/2007). The institution responsible for the control of the overall state aid is Croatian Competition Agency. In its annual reports the Agency presents annual data on the value of state aid for research and development, differentiating government grants for R&D and the tax advantages (see Table 1).

Table 1

State aid for research and development and innovation (2007-09)

	2007		2008		2009	
	in HRK mil	in EUR mil	in HRK mil	in EUR mil	in HRK mil	in EUR mil
A1 grants	4.9	0.7	46.9	6.5	31.6	4.3
A2 tax advantages	156.0	21.3	162.6	22.5	107.5	14.6
Total	160.9	21.9	209.5	29.0	139.1	19.0
- as % in horizontal aid		24.1		31.6		21.1
- as % in total state aid (less agriculture and fisheries)		2.0		3.5		2.8
- as % of total state aid		1.4		2.2		1.6
- as % of GDP		0.05		0.06		0.04

Source: Croatian Competition Agency. Sources of original data: Ministry of Finance and other state aid providers

The same source allows a comparison of the generosity of state aid for research and development in two periods – after the newly designed R&D tax incentives were put in place, and in the period with the "old" R&D tax incentives (see Table 2).

Table 2

State aid for research and development and innovation (2004-06)

	2004		2005		2006	
	in HRK mil	in EUR mil	in HRK mil	in EUR mil	in HRK mil	in EUR mil
A1 grants	0.0	0.0	4.7	0.6	17.3	2.4
A2 tax advantages	124.0	16.5	124.6	16.8	121.5	16.6
Total	124.0	16.5	129.3	17.5	138.8	19.0
- as % in horizontal aid		10.8		14.0		12.9
- as % in total state aid (less agriculture and fisheries)		3.7		4.0		2.3
- as % of total state aid		2.4		2.5		1.6
- as % of GDP		0.06		0.06		0.06

Source: Croatian Competition Agency. Sources of original data: Ministry of Finance and other state aid providers

It is obvious that the nominal value of the tax advantage brought about by R&D tax incentives has increased in 2007-09 when compared to the 2004-2006 period. However, their size in terms of total state aid and GDP has remained broadly constant.

3 FINANCIAL BENEFITS RESULTING FROM THE USE OF THE R&D TAX INCENTIVES

According to the Tax Administration data, there were 272 beneficiaries of the R&D tax incentives in 2008 and 261 in 2009[2]. Although the similar number of beneficiaries in two years could imply that there is a stable set of companies applying for the R&D tax incentives, this is not the case. Only 73 companies have benefited from the incentives in both years.

Total amount of the state aid given to the companies through the R&D tax incentives was HRK 813.3 i.e. 532.9 million. The decrease of the size of the state aid cannot be attributed to the economic crisis since the data on revenues and profits suggest better performance of the beneficiaries in 2009 than in 2008 (see Table 3). The R&D tax incentives were the most important type of tax deduction applied by the beneficiaries of the R&D tax credit. The other types of deduction were negligible and represented only 2.3 i.e. 3.4 percent of the total size of tax deductions applied by the R&D incentives beneficiaries.

Table 3

Basic data on the beneficiaries of R&D tax incentives (2008-09)

	2008	2009
Number of beneficiaries	272	261
Total revenues (*HRK million*)	20,771.1	34,370.8
Total expenditures (*HRK million*)	19,373.5	31,998.4
Total profit (*HRK million*)	1,538.0	3,142.0
Number of beneficiaries with negative net profit (*before taxes*)	24	32
Tax liability after tax deductions (*HRK million*)	113.8	406.2
Tax liability after all tax relieves (*HRK million*)	99.3	389.1

Total tax expenditure created as the result of the R&D tax credit was as high as HRK 162.7 million in 2008 and HRK 106.6 million in 2009. Basically, this data correspond to one published by the Croatian Competition Agency (see Table 1). In other words, the companies using R&D tax incentives have saved HRK 162.7 million in 2008 and HRK 106.6 million in 2009 and could use this amount of money for other purposes, such as financing their R&D investments.

Table 4

Financial benefits resulting from R&D tax incentives (2008-09)

	2008	2009
Number of beneficiaries with zero tax liability due to R&D tax incentives	60	71
State aid based on the R&D tax incentives (*HRK million*)	813.3	532.9
State aid based on all profit tax deductions (*HRK million*)	832.1	551.6
Tax expenditures resulting from R&D tax incentives (*HRK million*)	162.7	106.6
State aid based on the R&D tax incentives (*as % of net profit*)	52.9	17.0
Tax burden (*as % of tax liability after tax deductions in net profit*)	7.4	12.9
Tax burden (*as % of tax liability after all tax relieves in net profit*)	6.5	12.4

On average, R&D tax incentives brought about a considerable financial benefit for their beneficiaries. For a significant number of beneficiaries the size of R&D tax incentive was high enough to offset the whole tax base, and to fully eliminate the tax liability. There were 60 such companies in 2008 and 71 in 2009 (see Table 4). If, for the sake of simplicity, one calculates the

[2] In following sections the author uses data provided by the Tax Administration. Data are based on the tax returns of the entrepreneurs liable to profit tax, for 2008 and 2009. The data on 2007 were not taken into consideration since the R&D tax incentives were introduced in 2007. It can be assumed that during 2007 companies could not properly react and adjust their R&D expenditures so as to fully exploit the benefits of the newly implemented measure.

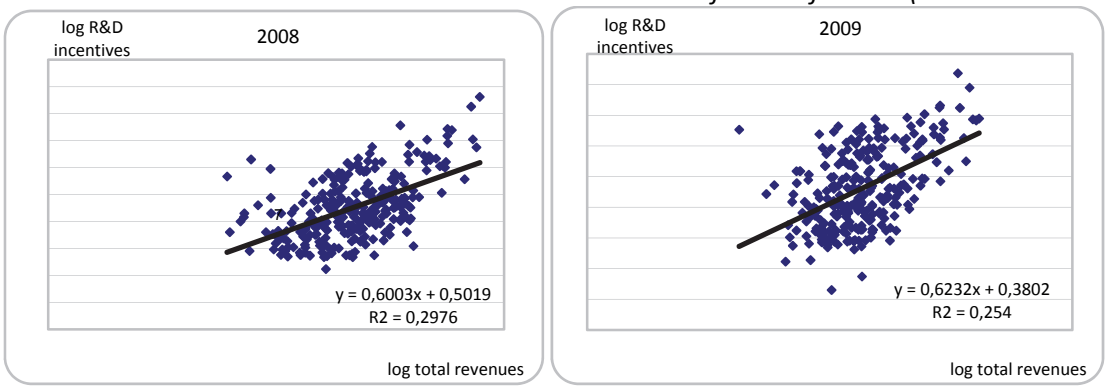
effective profit tax rate, as the ratio of tax liability and the net profit before taxes, it becomes evident that the R&D tax incentives contributed to a sizeable reduction of the beneficiaries' tax rate. The statutory profit tax rate in Croatia is 20 percent. The companies using R&D tax incentives had to pay only a 6.5-percent tax rate in 2008 and a 12.4-percent tax rate in 2009.

Some of the reduction compared to the statutory tax rate resulted from other tax deductions and other types of tax relief. Therefore, better understanding of the contribution of R&D tax incentive can be obtained comparing the actual tax burden and the tax burden that would exist in absence of R&D tax incentives. In 2008 R&D tax incentives had great effect on the reduction of tax burden. In absence of R&D tax incentives companies would, on average, have to dedicate 18 percent of their net profit to profit tax, whereas with R&D tax incentives they have paid only 6.5 percent. In 2009 this difference was much smaller. Without tax incentives companies' tax burden would be 16.3 percent, whereas with R&D tax incentives it amounted 12.4 percent of the net profit. The reduction of tax burden resulted from that fact that the state aid based on the R&D tax incentives has in both years had a significant share in total net profit – more than ½ in 2008 and 17 percent in 2009 (Table 4).

The level of state aid based on the R&D tax incentives is positively correlated with the size of companies measured by their total revenues (see Figure 1a and 1b). Positive correlation is, of course, expected, since bigger enterprises can allocate more funds to investing in research and development, but also, they are compelled to investing in R&D if they want to preserve their market share.

Figure 1a and 1b

Correlation between total revenues and R&D tax incentives for beneficiaries (in 2008 and 2009)



The amount of the state aid based on the R&D tax incentives has been very concentrated in 2008 and 2009. In 2008, 90 percent of the total tax incentives was attributed to only 9 companies or 3.3 percent of companies having access to the R&D tax incentives. In 2009, concentration was slightly reduced so that 27 companies (10.3 percent) got 90 percent of the total amount of the tax incentives (see Table 5).

High concentration of tax incentives implies that there were many companies that have used only small amounts of the incentives. E.g. in 2008 and 2009 there were 22 and 24 companies, respectively, that have used R&D tax incentive to lessen their tax bases by less than HRK 1,000. In other words, their final tax liability could thereby go down by mere HRK 200 or less. Majority of the companies (70.2 i.e. 64 percent) received tax incentive in the amount lower than HRK 100,000 and thus reduced their tax liability by HRK 20,000 or less.

With such a concentration of the state aid based on the R&D tax incentives, Gini coefficient for the distribution of the size of R&D tax investment amounted 0.996 in 2008 and 0.994 in 2009. If we know that the value of Gini coefficient can range from 0 to 1, with value of Gini coefficient equal to 1 showing complete concentration, the calculated Gini coefficients indicate very high degree of concentration.

Table 5

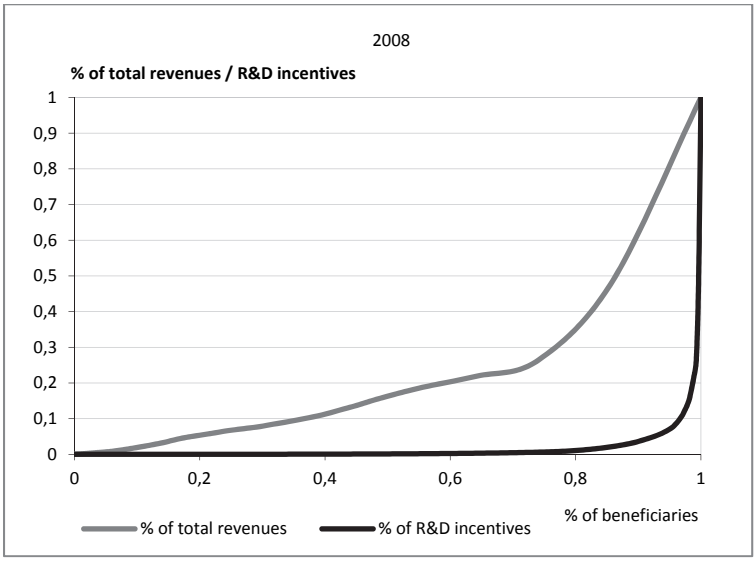
Concentration of financial benefits resulting from R&D tax incentives (2008-09)

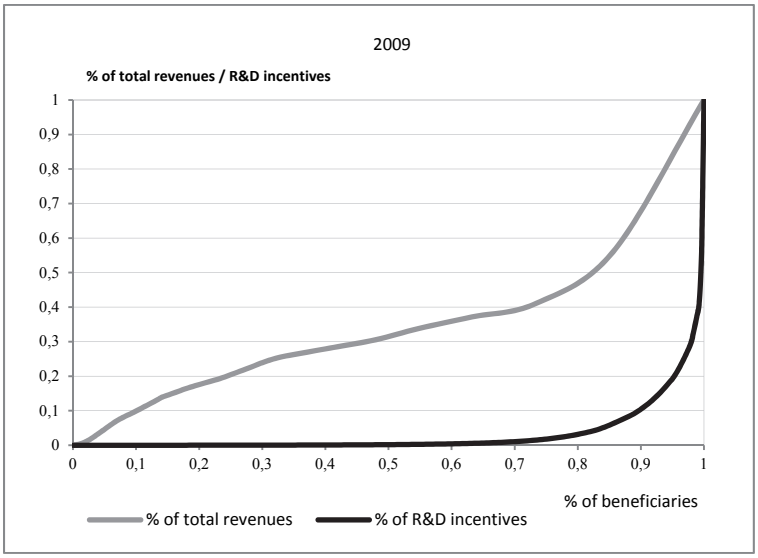
	2008	**2009**
Number (*%*) of companies consuming first 90 percent	9	27
of state aid based on R&D tax incentives	(*3.3*)	(*10.3*)
Number (*%*) of companies consuming first 99 percent	57	79
of state aid based on R&D tax incentives	(*20.0*)	(*30.3*)
Number (*%*) of companies with state aid based	22	24
on R&D tax incentives of less than HRK 1,000	(*8.1*)	(*9.2*)
Number (*%*) of companies with state aid based	93	90
on R&D tax incentives of less than HRK 10,000	(*34.3*)	(*34.5*)
Number (*%*) of companies with state aid based	191	167
on R&D tax incentives of less than HRK 100,000	(*70.2*)	(*64.0*)
Gini coefficient	0.996	0.994

Although a high correlation of the size of the beneficiaries (measured by total revenues) and the size of the state aid based on R&D tax incentives can be noticed, concentration of the state aid based on R&D tax incentives is much more pronounced than the concentration of beneficiaries' total revenues (see Figures 2a and 2b). This is certainly the result of extremely high concentration of R&D investment in very small number of companies. However, one could also speculate that, although the design of R&D tax incentives clearly favors small companies, the incentives could not stimulated them to change their behavior and invest more in R&D.

Figures 2a and 2b

Concentration of R&D tax incentives and total revenues of beneficiaries(in 2008 and 2009)





4 CHARACTERISTICS OF THE BENEFICIARIES OF THE R&D TAX INCENTIVES

Since the financial benefits resulting from the R&D tax incentives are highly concentrated on relatively small number of companies, one could assume that those are mainly the biggest companies who by there mere size can apportion significant amounts of money to R&D activities. This assumption should be confirmed by the deeper insight into the beneficiaries classified according to their size on big, small and medium enterprises and crafts. The criterion for the classification is based on the Croatian Accounting Act (NN 109/07) and the classification is carried out using the data available at Poslovna.hr internet service (www.poslovna.hr).

Tables 6a and 6b present various indicators on financial benefits resulting from the R&D tax incentives for big, medium and small enterprises as well for crafts for 2008 and 2009. The data basically confirm the assumption that the largest companies are also the largest beneficiaries of the R&D tax incentives.

In 2008, among beneficiaries there were 20 big companies whose share in total net profit of the beneficiaries was 80.8 percent, but their share in tax incentives was above proportional and amounted 87.7 percent. Therefore, the share of big companies using R&D tax incentives in total tax liability of the beneficiaries was only 52.7 percent. On the other side, the share of small beneficiaries in total tax liability was 20.7 percent whereas their share in total net profit and total state aid based on the R&D tax incentives was around 9.5 percent. In accordance to that, R&D tax incentives expressed in terms of the net profit (as an implicit profit tax base) amounted 57.4 percent for big companies and only 15.2 and 19.2 percent for medium and small enterprises, respectively.

Average tax burden was consequently the lowest for big enterprises. This finding should, however, not be misinterpreted. Namely, it should not be deemed that by pure design R&D tax incentives favor big companies. More probably, those are the biggest companies whose intensity of R&D investments is the largest relative to their overall expenditures or tax base. In addition, the difference of average tax burden between three groups of enterprises was more pronounced when looked at average tax burden after all tax relieves. This shows that the difference in tax burden was to greater extent brought about by tax reliefs for the areas of special state concern, free zones and investment incentives than by R&D tax incentives.

Table 6a

Financial benefits resulting from the R&D tax incentives by the type of beneficiaries (2008)

	Size and type of beneficiaries			
	Big	Medium	Small	Crafts
Number of beneficiaries	20	25	216	11
Share in total net profit (%)	80.8	9.1	9.7	0.3
Share in total state aid based on the R&D incentives (%)	87.7	2.6	9.5	0.1
Share in total tax liability (%)	52.7	25.9	20.7	0.8
State aid based on the R&D incentives (as % of net profit)	57.4	15.2	19.2	19.2
Average state aid based on the R&D tax incentives (HRK)	35,672,046	853,821	358,685	89,893
Average tax expenditures resulting from R&D tax incentives (HRK)	7,134,409	170,764	71,737	17,979
Average tax burden (as % of tax liability after tax deductions in net profit)	12.8	18.5	17.4	18.2
Average tax burden (as % of tax liability after all tax relieves in net profit)	4.2	5.9	13.7	14.9

Table 6b

Financial benefits resulting from the R&D tax incentives by the type of beneficiaries (2009)

	Size and type of beneficiaries			
	Big	Medium	Small	Crafts
Number of beneficiaries	24	29	195	13
Share in total net profit (%)	91.8	3.9	4.1	0.2
Share in total state aid based on the R&D incentives (%)	79.1	7.0	13.9	0.0
Share in total tax liability (%)	90.2	5.1	4.4	0.3
State aid based on the R&D incentives (as % of net profit)	14.6	30.5	57.4	3.4
Average state aid based on the R&D tax incentives (HRK)	17,556,976	1,291,070	474,099	13,469
Average tax expenditures resulting from R&D tax incentives (HRK)	3,511,395	258,214	94,820	2,694
Average tax burden (as % of tax liability after tax deductions in net profit)	12.8	24.5	17.9	40.5
Average tax burden (as % of tax liability after all tax relieves in net profit)	12.2	16.2	13.4	20.7

Same indicators calculated for 2009 give somewhat different results. In that year small enterprises were again the most numerous beneficiaries. In that year, their share in total tax liability was in line with their share in beneficiaries' net profit and their share in total state aid based on the R&D incentives was considerably higher than their share in net profit. As opposed to 2008, in 2009 the financial benefit from the R&D tax incentives as expressed in terms of net profit decreased with the size of the enterprises. It amounted 14.6 percent of net profit for big enterprises, 30.5 percent for medium enterprises and 57.4 percent of net profit for small enterprises. In spite of that, the average tax burden after tax deductions (and before tax reliefs for areas of special state concern etc.) was again somewhat lower for big enterprises than for small and medium enterprises.

The fact that the big enterprises benefited less from R&D tax incentives in 2008 than in 2009 (relative to their net profit) could be explained by the fact that the big companies that applied for the tax incentives and benefited largely from them in 2008 could not maintain the same intensity of R&D investments in 2009. Small firms were possibly not prepared for using benefits provided by R&D tax incentives at the beginning of their implementation, but then applied for them in next year. However, we have to be cautious with such conclusions for many reasons. First, we dispose of the data for only two years which is insufficient for a more serious analysis. Second, those two years refer to the period of economic crisis in which the economic agents have not adjusted their behavior primarily to the available incentive measures but more to their perception of the current market situation and expectations about future trends. Third, the number of beneficiaries in both years is relatively small and the data set is dominated by the behavior and performance of limited number of big enterprises. Any change of their R&D expenditures or economic performance has a large influence on the size of financial benefits brought about by R&D tax incentives, overall tax base and overall tax burden of beneficiaries.

Table 7

Distribution of R&D tax incentives according to the divisions of NACE 2002 (2008-09)

		2008		**2009**	
		HRK 000	%	HRK 000	%
32	Manufacture of radio, television and communication equipment and apparatus	181,110	22.3	238,769	44.8
24	Manufacture of chemicals, chemical products and man-made fibres	451,716	55.5	92,345	17.3
30	Manufacture of office machinery and computers	39,836	4.9	41,846	7.9
72	Computer and related activities	12,823	1.6	26,035	4.9
73	Research and development	52,727	6.5	25,031	4.7
65	Financial intermediation, except insurance and pension funding	0	0.0	22,006	4.1
28	Manufacture of fabricated metal products, except machinery and equipment	6,392	0.8	20,646	3.9
35	Manufacture of other transport equipment	17,115	2.1	18,555	3.5
31	Manufacture of electrical machinery and apparatus n.e.c.	21,545	2.6	13,953	2.6
29	Manufacture of machinery and equipment n.e.c.	2,763	0.3	6,465	1.2
74	Other business activities	5,165	0.6	6,417	1.2
15	Manufacture of food products and beverages	8,436	1.0	4,689	0.9
11	Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying	1,096	0.1	4,381	0.8
33	Manufacture of medical, precision and optical instruments, watches and clocks	892	0.1	3,320	0.6
45	Construction	1,670	0.2	2,484	0.5
18	Manufacture of wearing apparel; dressing; dyeing of fur	1,121	0.1	1,103	0.2
22	Publishing, printing and reproduction of recorded media	837	0.1	782	0.1
26	Manufacture of other non-metallic mineral products	1,172	0.1	616	0.1
52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	605	0.1	590	0.1
27	Manufacture of basic metals	783	0.1	488	0.1

Distribution of the beneficiaries and the amounts of R&D tax incentives by economic activities and location also gives an interesting insight. Table 7 presents the size of the R&D tax incentives in twenty sectors ranked by the size of the received incentives in 2009. It can be seen that there are two sectors that have received majority of the incentives – Manufacture of radio, television and communication equipment and apparatus (*32*) and Manufacture of chemicals, chemical products and man-made fibres (*24*). Those two sectors' contribution in total R&D tax incentives amounted 77.8 percent in 2008 and 62.1 percent in 2009. Manufacture of office machinery and computers (*30*), Computer and related activities (*72*) and Research and development (*73*), Manufacture of transport equipment (*35*) and Manufacture of electrical machinery and apparatus (*31*) were in both years among the best ranked sectors according to the size of the R&D tax incentives.

If one looks at the number of companies that have used R&D tax incentives per sector, the picture is quite different (see Table 8). High proportion of applicants belongs to the Other business activities (*74*). Those are small firms, mainly business consultants and law offices obviously having good understanding of tax and other legislation and having less difficulty in applying for the R&D tax incentives. It is somewhat surprising that many beneficiaries of R&D tax incentives belong to the trade and construction, since these sectors are not seen as ones with high R&D intensity. However, their share in the amount of the received incentives was quite small.

Table 8

Users of R&D tax incentives according to the divisions of NACE 2002 (2008-09)

		2008		**2009**	
		number	%	number	%
74	Other business activities	58	21.3	54	20.6
72	Computer and related activities	29	10.7	29	11.1
51	Wholesale trade and commission trade, except of motor vehicles and motorcycles	24	8.8	24	9.2
52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	17	6.3	15	5.7
45	Construction	16	5.9	14	5.3
28	Manufacture of fabricated metal products, except machinery and equipment	9	3.3	10	3.8
24	Manufacture of chemicals, chemical products and man-made fibres	8	2.9	9	3.4
73	Research and development	9	3.3	9	3.4
29	Manufacture of machinery and equipment n.e.c.	8	2.9	8	3.1
01	Agriculture, hunting and related service activities	4	1.5	7	2.7
31	Manufacture of electrical machinery and apparatus n.e.c.	7	2.6	7	2.7
30	Manufacture of office machinery and computers	5	1.8	6	2.3
15	Manufacture of food products and beverages	8	2.9	5	1.9
85	Health and social work	4	1.5	5	1.9
20	Manufacture of wood and wood products	2	0.7	4	1.5
22	Publishing, printing and reproduction of recorded media	4	1.5	4	1.5
50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	8	2.9	4	1.5
63	Supporting and auxiliary transport activities; activities of travel agencies	7	2.6	4	1.5
18	Manufacture of wearing apparel; dressing; dyeing of fur	5	1.8	3	1.1
26	Manufacture of other non-metallic mineral products	3	1.1	3	1.1

When looked at the distribution of R&D tax incentives by counties, it is evident that the incentives are concentrated in the County and City of Zagreb. In both years, more than 90 percent of the incentives were obtained by the firms registered in Croatian capitol. Companies having access to some R&D tax incentives are, apart from Zagreb, mostly located in County of Koprivnica-Križevci, Split-Dalmatia, Osijek-Baranja, Primorje-Gorski kotar (see Table 9).

Similar conclusion can be drawn from the data on number of users of R&D tax incentives by counties (see Table 10). Again, the majority of companies receiving tax incentives are located in Zagreb (more than 50 percent in both years). However, this data do not show as high concentration of tax incentives as the data on the size of the state aid based on R&D tax incentives. That results from the fact that the companies located outside of Zagreb are on average smaller and have, accordingly, lower R&D expenditures. However, it is worth noting that the data indicate that there are companies engaged in R&D activities that are located outside of Zagreb, and that a significant proportion of them is located in Istria, Osijek-Baranja county, Slovonski Brod-Posavina county and Split-Dalamatia county.

Table 9

Distribution of R&D tax incentives by counties (2008-09)

	2008		2009	
	HRK 000	%	HRK 000	%
Bjelovar-Bilogora	366	0.0	125	0.0
Dubrovnik-Neretva	467	0.1	42	0.0
Istria	915	0.1	1,045	0.2
Karlovac	0	0.0	0	0.0
Koprivnica-Križevci	30,271	3.7	7,360	1.4
Krapina-Zagorje	93	0.0	4,706	0.9
Lika-Senj	1,659	0.2	176	0.0
Međimurje	143	0.0	2,641	0.5
Osijek-Baranja	2,583	0.3	4,090	0.8
Požega-Slavonia	0	0.0	2	0.0
Primorje-Gorski kotar	2,933	0.4	12,646	2.4
Sisak-Moslavina	52	0.0	3	0.0
Slavonski Brod-Posavina	311	0.0	518	0.1
Split-Dalmatia	9,038	1.1	13,820	2.6
Šibenik-Knin	68	0.0	208	0.0
Varaždin	1,862	0.2	1,427	0.3
Virovitica-Podravina	28	0.0	40	0.0
Vukovar-Sirmium	1	0.0	0	0.0
Zadar	614	0.1	947	0.2
Zagreb and City of Zagreb	761,848	93.7	483,098	90.7

Table 10

Users of R&D tax incentives by counties (2008-09)

	2008		2009	
	number	%	number	%
Bjelovar-Bilogora	4	1.5	2	0.8
Dubrovnik-Neretva	6	2.2	2	0.8
Istria	14	5.1	11	4.2
Karlovac	0	0.0	0	0.0
Koprivnica-Križevci	3	1.1	6	2.3
Krapina-Zagorje	3	1.1	3	1.1
Lika-Senj	6	2.2	3	1.1
Međimurje	4	1.5	3	1.1
Osijek-Baranja	13	4.8	14	5.4
Požega-Slavonia	0	0.0	1	0.4
Primorje-Gorski kotar	18	6.6	19	7.3
Sisak-Moslavina	2	0.7	2	0.8
Slavonski Brod-Posavina	10	3.7	4	1.5
Split-Dalmatia	22	8.1	21	8.0
Šibenik-Knin	3	1.1	2	0.8
Varaždin	8	2.9	7	2.7
Virovitica-Podravina	2	0.7	1	0.4
Vukovar-Sirmium	2	0.7	0	0.0
Zadar	5	1.8	5	1.9
Zagreb and City of Zagreb	147	54.0	155	59.4

5 CONCLUSION

From the analysis of the data obtained from the Tax Administration on beneficiaries of R&D tax incentives in 2008 and 2009 one can draw some conclusions on the characteristics of the beneficiaries as well as on the potential impact on their behaviour regarding the R&D investments.

Firstly, the data show that R&D tax incentives resulted in a considerable financial benefit for their beneficiaries. Their tax base diminished by a significant proportion as the size of the state aid based on the R&D tax incentives equaled 52.9 percent of total net profit in 2008 and 17 percent of net profit in 2009. Consequently, average tax burden of the beneficiaries was only 6.5 percent in 2008 and 12.4 in 2009, which is much lower than the statutory tax rate of 20 percent. Secondly, the reduction of average tax burden brought about by the R&D tax incentives was more pronounced for big than for small enterprises, implying that, although designed to favor small enterprises, this favorable treatment was not fully exploited by them. Thirdly, state aid based on the R&D tax incentive was very concentrated in both years. Although a positive correlation between the size of companies and the level of state aid based on R&D tax incentive can be confirmed, the concentration of R&D tax incentives is much higher than the concentration of beneficiaries' size measured by total revenues. Fourthly, the data for 2009 indicate in increase in small enterprises participation in R&D tax incentives in comparison with 2008, which could point at the change in their behavior in respect to the R&D due to this promotion measure. Fifth conclusion is that the major part of the R&D tax incentives was given to the companies in two sectors – Manufacture of radio, television and communication equipment and apparatus, and Manufacture of chemicals, chemical products and man-made fibres. Finally, the conclusion is that the R&D tax incentives are also regionally concentrated since more than 90 percent of total incentives were obtained by the firms located in the County of Zagreb and the City of Zagreb.

The results of the analysis should be interpreted with due caution, since based on the small data set referring to only two years of the implementation of the measure. If one would want to evaluate the effectiveness of R&D tax incentives, Tax Administration data should be combined with other data sources such as Community Innovation Survey in order to get the insight into the size of the R&D investment and type of expenditures on R&D undertaken both by the R&D tax incentives beneficiaries, and by the companies who are not using the R&D tax incentives scheme.

REFERENCES

Croatian Competition Agency, 2007. *Annual Report on State Aid for 2006*. Zagreb: Croatian Competition Agency.

Croatian Competition Agency, 2008. *Annual Report on State Aid for 2007*. Zagreb: Croatian Competition Agency.

Croatian Competition Agency, 2010. *Annual Report on State Aid for 2009*. Zagreb: Croatian Competition Agency.

European Commission, 2010. *EUROPE 2020: A strategy for smart, sustainable and inclusive growth*. COM(2010) 2020 final. Brussels.

Expert Group on R&D Tax Incentives Evaluation, 2008, *Comparing Practices in R&D Tax.*

Incentives Evaluation. *Final Report, European Commission Directorate General – Research*. Brussels.

Odluka o objavljivanju pravila o potporama za istraživanje i razvoj i inovacije, NN 84/07. Zagreb: Narodne novine.

Pravilnik o državnoj potpori za istraživačko-razvojne projekte, NN 116/2007. Zagreb: Narodne novine.

Zakon o izmjenama i dopunama Zakona o porezu na dobit, NN 163/2003 I 57/2006. Zagreb: Narodne novine.

Zakon o izmjenama i dopunama Zakona o znanstvenoj djelatnosti i visokom obrazovanju, NN. 46/2007. Zagreb: Narodne novine.

Zakon o porezu na dobit, NN 177/04. Zagreb: Narodne novine.

POREZNI POTICAJI ZA ISTRAŽIVANJE I RAZVOJ U HRVATSKOJ: KORISNICI I NJIHOVE KORISTI

SANDRA ŠVALJEK

EKONOMSKI INSTITUT ZAGREB

JEL KLASIFIKACIJA: O32, O38, H25, H50

SAŽETAK

Cilj je ovoga rada odgovoriti na osnovna pitanja o ostvarivanju poticaja za istraživanje i razvoj koji su trenutačno na raspolaganju u Hrvatskoj, kao što su: koliko trgovačkih društava koristi poticaje, koja su obilježja tih društava, u kojem iznosu porezne poticaje za istraživanje i razvoj smanjuju poreznu obvezu tih društava, itd. Prema dostupnim podacima za 2008. i 2009., porezni poticaje za istraživanje i razvoj donijeli su značajne uštede korisnicima, osjetno smanjujući efektivnu poreznu stopu poreza na dobit znatno ispod zakonom propisane stope. Raspodjela financijskih koristi od odbitaka poreza ostvarenih temeljem istraživanja i razvoja je bila izrazito nejednaka – velika su društva ostvarila nadprosječne udjele ukupnih financijskih koristi. Najveći je dio poticaja za istraživanje i razvoj otišao društvima za izradu radio televizijskih komunikacijskih aparata i opreme i proizvodnju kemikalija, kemijskih proizvoda i umjetnih vlakana. Više od 90% ukupnih poticaja ostvarila su poduzeća iz Zagrebačke županije i Grada Zagreba.

Ključne riječi: istraživanje i razvoj, poticaji, Hrvatska