

GAZDASÁG & TÁRSADALOM

Journal of Economy & Society

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Székely Csaba
Innováció és kreativitás

Csaba Bálint Illés – Anna Dunay – Klára Hustiné Béres
Tax system and innovation activities
– a case study on Hungarian small and medium enterprises

Hronszky Imre
A Moore törvény a mikroelektronikai alkatrészipari innováció fejlesztésében

Keresztes Gábor
Az innováció fogalmának történeti áttekintése

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Horváthné Kókény Annamária – Horváth Marianna – Széles Zsuzsanna
Megtakarításhoz kapcsolódó elméletek

2013/4

Gazdaság & Társadalom

Journal of Economy & Society

Megjelenik évente négy alkalommal

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Web oldal / web page: <http://gt.nyme.hu>

Előfizetés:

Intézményeknek: 2800 Ft/év

Egyéni előfizetés: 1700 Ft/év

Példányonkénti ár: 700 Ft/dupla szám: 1400 Ft.

ISSN 0865 7823

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Gazdaság & Társadalom

5. ÉVFOLYAM

2013.

4. SZÁM

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Tax system and innovation activities – a case study on Hungarian small and medium enterprises

Csaba Bálint Illés, CSc,

Professor, Szent István University, Hungary¹⁹

Anna Dunay, PhD,

Associate Professor, Szent István University, Hungary

Klára Hustiné Béres, PhD,

Associate Professor, Szent István University, Hungary

ABSTRACT In Hungary, small and medium enterprises play a dominant role in the national economy. The development and competitiveness of these enterprises are considerably determined by the actual taxation system. In our study, we examined competitiveness from the aspects of innovation. Innovation activities are influenced by many factors, one of them is its supporting level. A possible supporting tool is tax system, which may be considered as an accelerator of economic competitiveness. In our research we evaluated the relations between tax system and innovation based on the primary data of Hungarian SMEs of the food producing sector.

KEYWORDS: SME sector, taxation, R&D activities, innovation

Introduction

In Hungary, as well as in Europe, the SMEs have the greatest share within the different company forms. Most of these enterprises are operated in the services industry, industrial and agricultural sector represent a smaller proportion. The spatial structure of the SMEs shows a centralized shape, most of the enterprises are operated in the capital (Budapest) and its surrounding Pest County (Central Region), namely, 40% of all company forms and 20% of private entrepreneurs work in Budapest. The SMEs in the Hungarian economy can be classified as micro, small and medium enterprises, in compliance with the EU requirements.

The economic features of the micro, small and medium enterprises can be characterized by high labor and low capital intensity. These enterprises represent a greater share from the total employment than from the total revenues or profit production. Compared to foreign countries, the differences between the Hungarian small and large companies are considerable and the gap permanently widens. The profit production and the export level of the Hungarian SMEs is significantly lower than the EU average, thus, the Hungarian Government should develop a long term

¹⁹ illes.b.csaba@gtk.szie.hu

strategy in order to improve the stability and competitiveness of the domestic SMEs. The general objective of this strategy is to improve the efficient use and the spread of different supports and to decrease the administrative costs of these supporting measures. The share of different types of Hungarian enterprises by different factors is detailed in Table 1. These data definitely show the dominance of the SMEs in the Hungarian economy, as they represent 99.8% of the total number of enterprises and contribute to the total employment by 71%.

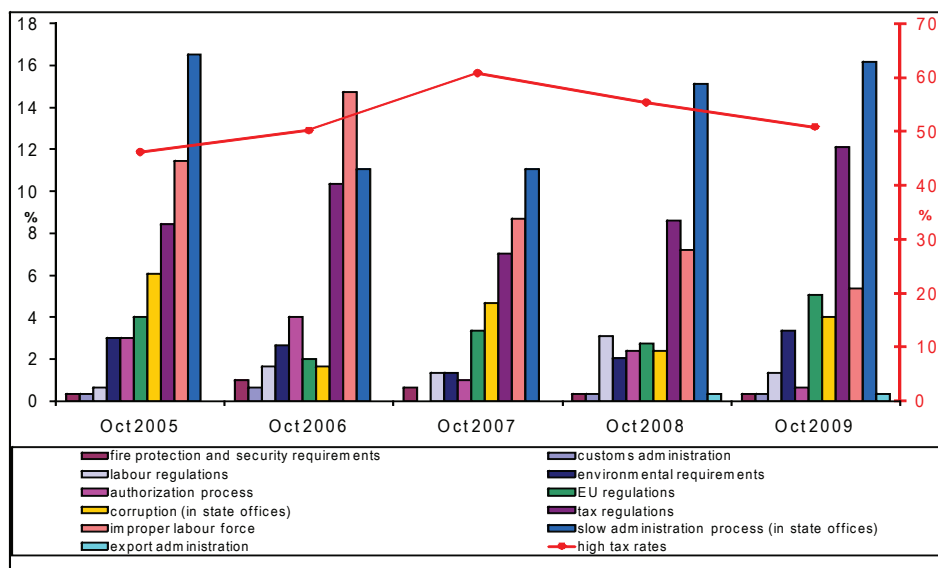
Table 1: Structure of enterprises by size in Hungary compared to the EU average (%)

Size categories	Number of enterprises			Employment			Value added		
	Hungary		EU-27	Hungary		EU-27	Hungary		EU-27
	Number	%	%	Number	%	%	Billion €	%	%
Micro	516 092	94.2	92.1	917 258	35.8	29.6	8	15.8	21.1
Small	26 370	4.8	6.6	500 905	18.9	20.6	7	16.3	19.9
Medium	4 432	0.8	1.1	430 770	16.2	16.2	9	18.1	17.8
SMEs	546 894	99.9	99.8	1 848 932	71.0	67.1	25	50.2	57.9
Large	806	0.1	0.2	730 334	29.0	32.9	21	49.8	42.1

Source: European Commission (2012)

Impacts of taxation on the competitiveness of the Hungarian SMEs

A domestic survey – conducted between 2005 and 2009 – revealed that high tax rates were among the most important difficulties for every second enterprises (see the curve on Fig. 1.), while one sixth of the enterprises indicated the slow administration process in state offices is the greatest problem. Tax regulations were also indicated as a significant problem for the SMEs, because of their complexity and the continuous changes.

**Figure 1: Bottleneck factors of the operation of Hungarian SMEs between
October 2005 and October 2009**

Source: GVI (2009)

Note: The left axis is related to the block diagrams, while the right axis relates to the high tax rates illustrated by the line chart.

The Hungarian Corporate Tax Act (1996) determines several facilities, which may improve competitiveness by reducing the tax base, for example the losses can be deducted from the tax base or rolled on without limitation, the investments are encouraged by forming development reserve from pre-tax profits, or the direct costs of R&D activities may be deducted from the tax base. The corporate income tax may be reduced by different options of tax allowances, which may also be a potential of improving R&D activities. (Illés et al., 2011a)

Most of tax allowances provide indirect financial resources for only large companies, as these allowances are connected to large scale (in the order of HUF billions) investments which may result significant development in employment. Micro, small and medium enterprises – depending on their economic conditions – may use only tax relief on the interest of the credits and the labor costs of software development in general.

Innovative activities in the Hungarian SME sector

Csizmadia and Grosz (2011) have conducted a survey in Hungary among the domestic SMEs, about their innovation capacity and processes. 1835 SMEs was

interviewed in the research, 28.6% of them had R&D activities. In Table 2, the main data on the agricultural and food processing sector are summarized.

Table 2: Main indicators of innovation processes in Hungarian enterprises of the food processing industry and the agricultural sector (%)

Categories	Average in National economy	Agri-culture	Food pro-cessing sector	Food process-ing sector/ Agriculture	National economy/ Agriculture
Share of enterprises with R&D activities in the % of total revenues	30.1	20.5	35.7	174	146
Share of enterprises with R&D activities in the % of total expenses	28.9	20.0	34.5	173	145
Share of enterprises with R&D activities in the % of employment	20.5	12.0	26.6	222	170
Average R&D expenses (all enterprises)	1.98	1.12	2.04	182	178
Average R&D connected employees (all enterprises)	1.88	0.54	1.96	363	348
Average R&D expenses (enterprises with R&D activities)	6.72	5.58	5.81	104	120
Average R&D connected employees (enterprises with R&D activities)	6.45	2.81	5.69	202	230
Share of innovative activities	42.5	27.2	48.2	177	156
Technological innovation	35.8	20.5	42.7	245	175
Product innovation	27.7	13.6	33.3	245	204
Process innovation	17.4	12.5	21.7	174	235
Organizational innovation	17.4	9.1	16.9	188	191
Marketing innovation	19.6	8.0	18.7	234	238

Source: Csizmadia and Grosz (2011)

Taxation as an incentive of the R&D&I activities of agricultural enterprises in Hungary

In Hungary, taxable income and the value of the tax of corporate enterprises have been controlled by the Corporate Tax Law and the Simplified Entrepreneurial Tax since 2003. The value of the capital gains tax is calculated by the regulations of the Corporate Tax Law in nearly 90% of the Hungarian corporate enterprises. (Borbély et al., 2011)

The tax system of a given country should be suitable or should be adjusted to be suitable to give help to the enterprises – including agricultural enterprises – to survive the hard circumstances, to be stable, to develop their business, and to improve their competitiveness. The innovative attitude of the enterprises and their willingness for using the results of research, development and innovation (R&D&I) activities play an important role in their successful operation.

Incentives of R&D&I activities are key objectives not only in Hungary and the European Union, but also in the most developed countries in the world. The most important issues and directives of innovation activities are described in many literature sources, but the most widely used definitions and objectives are summarized by the Oslo Manual. (OECD, 2006) According to the EU report titled ‘Innobarometer 2009’ (European Commission, 2009) the share of such enterprises which did not show remarkable innovation activities in the first decade of the 21st century was the highest in Hungary. Innovation activities are mostly entrepreneurial activities, but it is inevitable to support these attitudes by specific state regulations. In Hungary, companies are required to pay a so-called innovation contribution, which tax base is the same as that of the local business tax. At the beginning of the 2000s, the introduction of the innovation contribution was considered as a possible solution of the financing problems of innovation processes. Nevertheless, based on the experiences of the past years, it can be stated that the utilization of the contribution paid into the Innovation Fund is not effective enough. Némethné (2010) summarized the opinion of many Hungarian professionals as well; according which the state should play an active role in encouraging the innovative attitude of the companies, not simply by the allocation of the different financial sources, but also in an integrator’s role that controls and manages the innovation process through its marketing connections. Kassai (2012) highlighted four main problems of the Hungarian R&D policy: (1) Innovation activities should definitely be supported by the state. In Hungary the R&D support level is decreasing continuously (the expenditure on R&D compared to GDP is only 1.1% in Hungary, the EU-27 average is 1.9%, while in Western Europe it is between 3 and 7%). (2) Companies must have own financial contribution for the innovation activities, may even increase the present financial problems of the Hungarian enterprises. According to Lakner and

Hajdu (2004) the situation, particularly exists in the agricultural sector. (3) The market opportunities of the Hungarian enterprises are very narrow. (4) The state supports given to the enterprises (including SMEs) are generally connected to additional production or increasing labor force, but enterprises cannot increase their production in the lack of additional market possibilities. The financial supports are used for improving the quality of the products and the decrease of the product prices.

Competitiveness and its relations with the tax system may be considered differently. From the general point of view, the well-reformed tax system of the given country may improve the competitiveness of the country's enterprises. According to other opinions, taxation does not have direct influence on competitiveness; it is rather determined by the comparative advantages of the country, the knowledge level of the labour force, the level of the wages, the infrastructure, the geographical situation etc., and tax system is just one of these elements. Changes of the tax system may influence investment level in short terms, but in order to keep this attitude in longer terms, it is needed to give additional positive business environment conditions in the given country. Tax system should be considered as an accelerator of economic competitiveness. (Hustiné, 2012; Illés et al., 2011a)

Tax allowances as incentives for R&D&I activities of corporate enterprises

In 2008 (the examination period of our research) there were many elements in the tax return and the calculation of tax payable, which may give advantages for the research, development and innovation activities of enterprises. The list of the 14 tax allowance options is summarized in Table 3.

Table 3: Tax allowance options in the examined period

<i>Revenue decreasing elements</i> (2 items):	<ul style="list-style-type: none"> • Reduction in royalties, • Reduction on patents or design rights (ceased in 2011).
<i>Decreasing elements on eligible costs</i> (5 items):	<ul style="list-style-type: none"> • Reduction in the direct costs of research and development activities, • Reduction of investment costs of small and medium enterprises, • Reduction of investments with a minimum cost of 3 billion HUF, in underdeveloped areas (ceased in 2012), • Reduction of the wage costs of research and development (ceased in 2012), • Deferred tax reduction in the wage costs of research and development (ceased in 2012).

<i>Decreasing elements on calculated tax (7 items):</i>	<ul style="list-style-type: none"> • 10% reduction on the wage costs of software developments (ceased in 2012), • Deferred tax reduction (10%) on the wage costs of software developments (ceased in 2012), • 15% reduction on the wage costs of software developments (ceased in 2012), • Deferred tax reduction (15%) on the wage costs of software developments (ceased in 2012), • Interest rebate of loans, • Tax reduction in development – with governmental permission, • Tax reduction in previous financial investments.
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Source: own construction

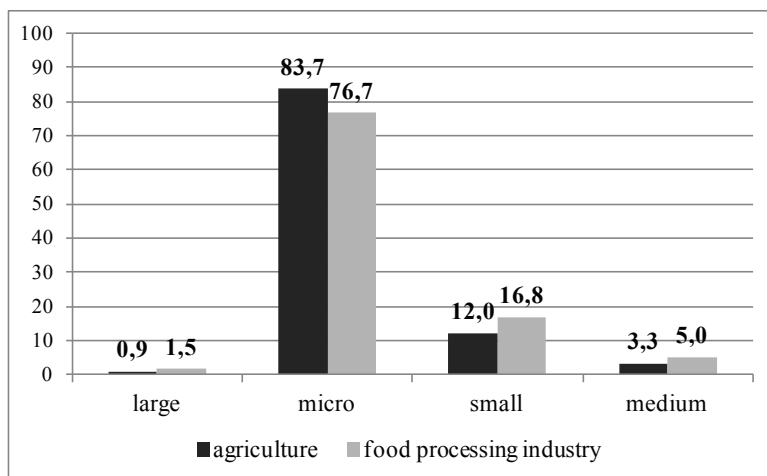
To take the advantages of these so-called ‘decreasing elements’ many special requirements shall be fulfilled (such as a given amount of revenue, employment level, regional criteria etc.) which will definitely determine the operations of the enterprise for the following years. The different decreasing elements, which were available in the examined period, were connected to the revenue, eligible costs, and the calculated tax of the enterprises.

Examination of the innovation activities in Hungarian SMEs of the agribusiness sector

In the calculations of our researches, we used primary data derived from the data file of the corporate tax return data of 2008 provided by the Hungarian Tax and Financial Control Administration.

The whole database provided by the Hungarian Tax and Financial Control Administration (for 2008) contained 601 variables identified by different code numbers, for 348 623 enterprises. The original database – as it was very complex – should be processed in order to meet the main objectives of the research. The data file was processed in the SPSS 11 program. The large number of variables, was reduced 115. In the next step, we have chosen the variables that may be connected to innovation activities. In addition, we had to create new variables and to transform the original variables to make the detailed analysis possible.

Only 2.5% of the total enterprises which have to apply corporate tax law worked in agricultural production in 2008 (8 487 enterprises), while 32 815 enterprises worked in food processing industry (of which 98.5% represented SMEs). 99% of agricultural enterprises were SMEs, from which the 83.7% were micro-, 12% smaller and 3.3% medium enterprises. The share of micro enterprises was higher only in the agricultural sector, while in the other size categories the food processing industry represented the higher proportion (see Figure 2)

Figure 2: Agricultural and food processing enterprises, according to company size (%)

Source: own calculations based on taxation data on 2008

If we analyze the spatial structure of enterprises, it can be stated that 30-55% of food processing enterprises are working in the Central Hungary region, while only 10-19% of agricultural enterprises are situated in this region. Agricultural enterprises represent a higher proportion (1-1.5 times higher) in all the other regions, compared to the food processing industry. The regional distribution of food processing companies is more even in all the seven regions, compared to the agricultural enterprises (see Table 4).

Table 4: Distribution of agricultural and food processing enterprises according to regional location (%)

Enterprises Region	Agriculture					Food processing industry				
	large	micro	small	medium	total	large	micro	small	medium	total
Southern Transdanubia	9.0	14.4	16.8	15.5	14.6	4.6	7.4	8.4	9.2	7.6
Western Transdanubia	14.1	13.6	10.0	12.0	13.1	8.7	8.9	9.9	13.1	9.3
Central Transdanubia	17.9	10.1	12.5	11.6	10.6	9.1	10.8	11.4	9.9	10.8

Enterprises Region	Agriculture					Food processing industry				
	large	micro	small	medium	total	large	micro	small	medium	total
Southern Great Plain	15.4	17.0	21.0	20.8	17.6	8.3	10.6	14.0	13.8	11.3
Northern Great Plain	15.4	16.7	18.2	22.2	17.0	8.7	9.3	12.5	13.5	10.0
Northern Hungary	9.0	10.2	7.9	7.7	9.9	5.7	8.4	9.7	10.6	8.7
Central Hungary	19.2	18.0	13.6	10.2	17.2	54.9	44.7	34.0	29.8	42.3

Source: own calculations based on taxation data of 2008

When examining the average share of foreign ownership among corporate enterprises, it can be stated that both in all SME groups and the large enterprise group the average share of foreign ownership is higher in the agriculture (5.8%) than in the food processing industry (3.9%). In all size categories of agricultural enterprises, the ratio of those without foreign ownership is lower than in case of food processing companies. Only 39% of the agricultural enterprises do not have foreign ownership while this ratio is 63% in the food processing industry.

The average amount of share capital is lower in all company size categories of the agricultural enterprises, except small sized companies. The detailed data of the share capital values in the two examined sectors are summarized in Table 5.

Table 5: Average amount of share capital in agricultural and food processing corporate enterprises

Company size	Average amount of share capital (In 1000 HUF)		Agriculture / Food pro- cessing industry (%)
	Agriculture	Food processing industry	
Large	2 635 805	20 390 302	13
Micro	48 913	139 500	35
Small	467 709	298 966	156
Medium	1 844 585	2 315 343	80
Average	1 249 253	5 786 028	22

Source: own calculations based on taxation data of 2008

Assessment of the application of corporate tax allowances as incentives of R&D&I activities of Hungarian corporate enterprises

Comparison of the total value of tax allowances

At first, we made the comparison according to the total value of tax allowances. Agricultural enterprises could utilize only nine from the 14 available tax allowances offered by the Corporate Tax Law, while enterprises in the food processing industry used 11 of these allowances. The most popular allowance in both sectors was the allowance on the wage costs of software developments. Software development allowance may be related to the 15 % of its wage costs in the current year and the next three fiscal years. However, only the deferred option of this allowance could be reached by the enterprises, mostly due to the strict requirements (the allowance was limited to the 70% of the calculated tax of the given year).

The average amount of tax allowances connected to the wage costs of R&D activities was higher in large agricultural enterprises than in the food processing industry. The examined data showed that the wage costs for R&D in the agricultural enterprises exceeded those in the food processing industry. It means that the R&D activities might be more significant in the agricultural sector.

When examining the SMEs it could be observed, that the average value of tax allowances on wage costs connected to R&D activities

- Was higher in the agricultural sector than in food processing industry in the small enterprise group,
- Its value was zero in medium sized agricultural enterprises, the value of the deferred option was higher than in the group of medium sized enterprises of the food processing industry.

Allowances on patents, design rights and royalties were only significant in large enterprises of the food processing sector.

The agricultural enterprises and SMEs in the food processing sector did not use the tax allowance on the interest of loans for purchasing equipments. In large food processing companies the average value of tax allowances under this title was 89 632 thousand HUF in total, which may be considered a rather high value.

When comparing the average values of the all examined agricultural and food processing enterprises, it can be stated that in all tax allowance titles the average values are more (2-10 times) higher in the enterprises of the food processing industry than in agricultural ones.

Comparison by the number of applicants for tax allowances

The analysis of the applicants of tax allowances displayed a more unfavourable situation than the comparison by the total sum of the allowances. The number of enterprises that used the available allowances was rather low in both sectors.

The number of beneficiaries of tax allowances was not significant among either the large or the medium sized enterprises. The number of enterprises applying for different tax allowance types is summarized in Table 6, according to the type of activities (agriculture and food processing) as well as by company size. The numbers in the headings show the total number of enterprises in the examined database representing the given type and company size.

Table 6: Number of agricultural and food processing enterprises using the available 14 tax allowance types

Tax allowance option		Large		Micro		Small		Medium	
		enterprises							
		Agri-culture	Food pro-cessing	Agri-culture	Food process-ing.	Agri-culture	Food pro-cessing	Agri-culture	Food process-ing.
		78	495	7 106	25 164	1 019	5 503	284	1 653
1.	50% of revenue on royalties	0	6	0	1	2	9	2	7
2.	on patents or design rights	3	9	2	11	1	47	3	36
3.	20% of direct costs of R&D	5	56	3	73	8	90	12	87
4.	on investment costs	0	0	0	0	0	0	0	0
5.	on investments with min 3 bn HUF	0	0	0	2	0	0	0	0
6.	on wage costs of R&D	1	2	2	3	2	8	0	9
7.	Deferred reduction of wage costs of R&D	1	2	1	1	1	2	1	7
8.	10% reduction of wage costs of software developer	3	11	65	153	28	227	15	11
9.	Deferred 10% reduction of wage costs of software developer	3	7	15	8	12	37	11	24

Tax allowance option		Large		Micro		Small		Medium	
		enterprises							
		Agri-culture	Food processing	Agri-culture	Food processing.	Agri-culture	Food processing	Agri-culture	Food processing.
		78	495	7 106	25 164	1 019	5 503	284	1 653
10.	15% reduction of wage costs of software dev.	0	4	0	2	0	0	0	0
11.	Deferred 15% reduction of wage costs of software developer	43	391	3 081	17 861	850	4 148	221	1 222
12.	Interest rebate of loans	0	9	0	0	0	0	0	0
13.	Reduction on development (governmental permission)	0	3	0	1	2	4	2	8
14.	Reduction in previous financial investments	0	7	0	3	0	6	0	10

Source: own calculations based on taxation data on 2008

As it is shown by the heading data in Table 6, the number of food processing enterprises was nearly four times more than the agricultural enterprises, while the number of applicants was 5-9 times larger in food processing industry, even in the group of large and medium enterprises. These data show that agricultural enterprises could not take most of the advantages of the tax allowances. The most widely used tax decreasing element was the 15% reduction of the wage costs of software developers, with the deferred option (row 11).

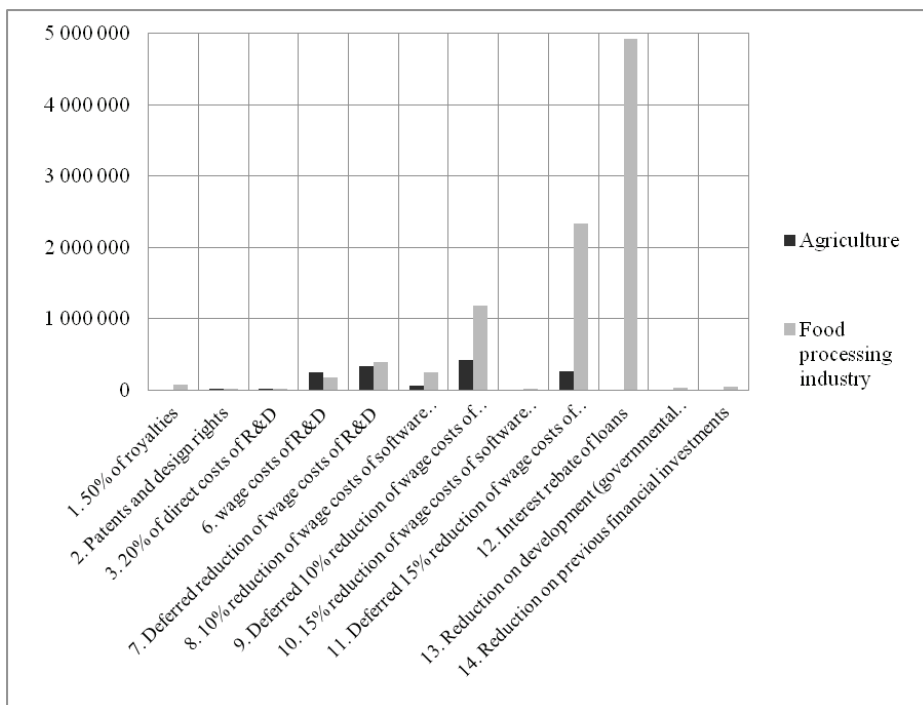
Comparison of the average value of tax allowances

In the calculation process of the value of tax allowances per different enterprises, the amount of the reduction were compared not only with the total number of enterprises but also with the number of applicants for the given tax allowance. From the results of the second method (i.e. Compared with the number of applicants),

we calculated the average value of tax allowances, which were assessed by different company size categories both in agricultural and food processing sector.

Figure 3 illustrates the value of average tax allowances in large sized enterprises. In case of large enterprises, the average value of allowances in food processing industry has exceeded significantly those in the agricultural sector. The value of the average amount of reduction was very high (nearly 5 billion HUF) in case of the option for the interest rebate of loans. This allowance option was not used in any other company size categories.

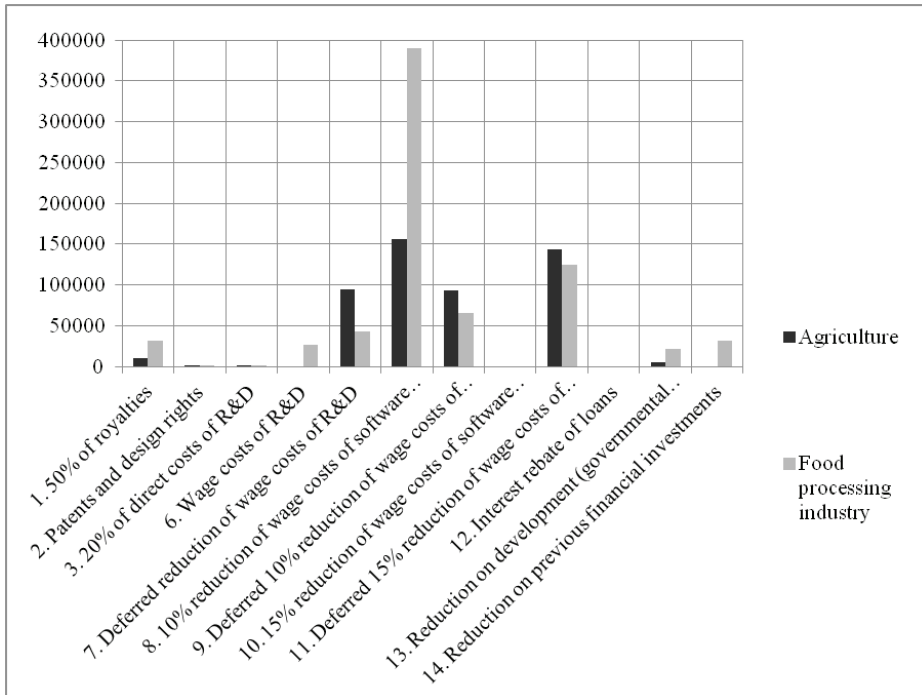
Figure 3: Comparison of the average value of different types of tax allowances for R&D activities in large agricultural and food processing enterprises (in 1000 HUF)



Source: own calculations based on taxation data on 2008

Figure 4 describes the average value of tax allowances in micro enterprises (in agriculture and in the food processing industry). In the group of micro enterprises, higher average values could be observed among agricultural enterprises.

Figure 4: Comparison of the average value of different types of tax allowances for R&D activities in micro agricultural and food processing enterprises (in 1000 HUF)

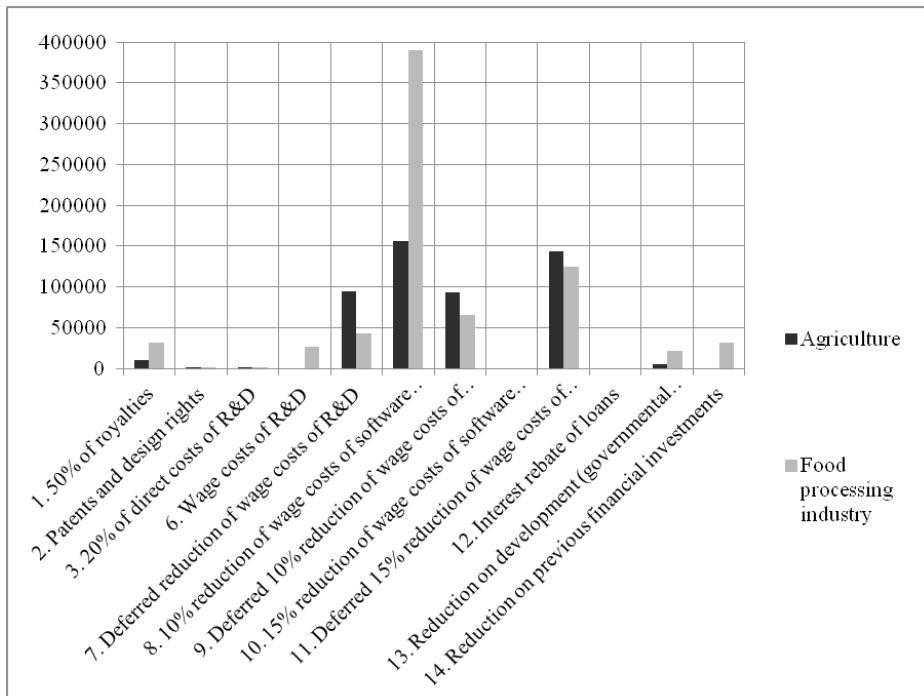


Source: own calculations based on taxation data on 2008

The average value of the tax reduction on wage costs on R&D activities is nearly 30 million HUF, while its value in food processing industry is the third of this amount. Similarly, the average amount of the deferred tax reduction on the wage costs of software developers is three times higher in the agricultural sector. The possible reason of this situation may be that the R&D activities of the applicants for tax allowances of this size group were at higher level in the agricultural sector than in food processing industry.

In the group of small enterprises, the average values for agricultural enterprises were 2.5-3 times higher except for three allowances. According to the data available, the higher the value of R&D allowances, the lower the share of using deferred option. (Figure 5)

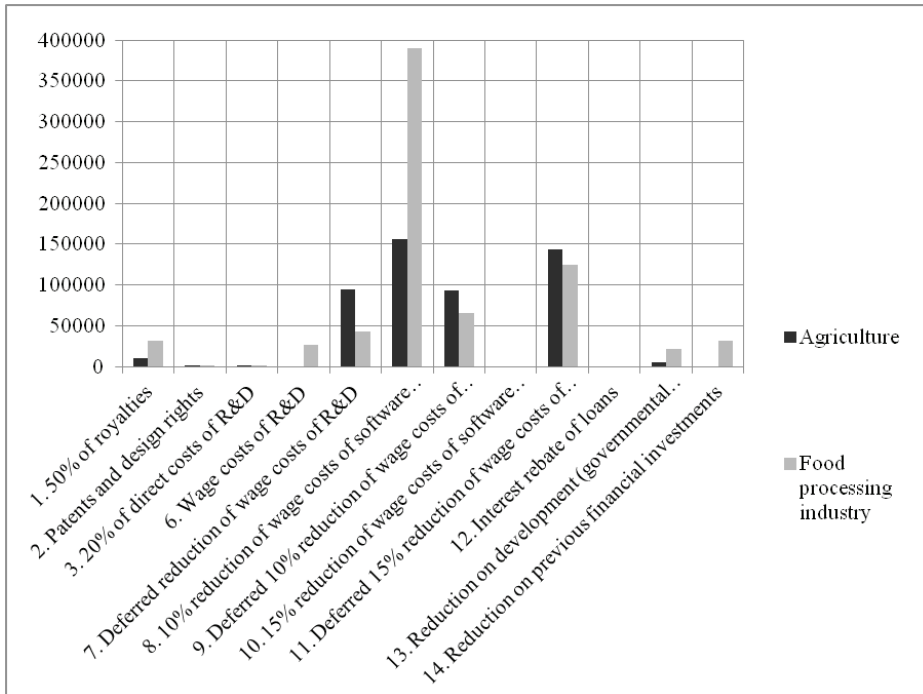
Figure 5: Comparison of the average value of different types of tax allowances for R&D activities in small agricultural and food processing enterprises (in 1000 HUF)



Source: own calculations based on taxation data of 2008

In medium sized enterprises, the average value of the allowance on the wage costs of software developments was very high in the processing industry (nearly 400 million HUF) while in the agriculture this amount was only 150 million HUF (see Figure 6). In the all other tax allowance types, we observed lower values and the differences between the two sectors were not significant.

Figure 6: Comparison of the average value of different types of tax allowances for R&D activities in medium agricultural and food processing enterprises (in 1000 HUF)



Source: own calculations based on taxation data on 2008

Taxation categories

The amount of tax liability of different enterprises is determined by the tax rate, the sum of the earnings before taxes, the sum of its correct elements, the tax base and the tax allowances. Table 7 shows the differences of these characteristics in different sized enterprises in both sectors.

Table 7: The share of agricultural and food processing enterprises, according to negative and zero values of different tax categories (%)

Description	Agriculture				Food processing industry			
	large	micro	small	medium	large	micro	small	medium
	enterprises							
Earnings before taxes: negative	10	36	18	11	33	35	20	24
zero	20	5	0	0	8	5	0	0
Total	30	41	18	11	41	40	20	24
Correction elements								
Decreasing elements zero	26	24	2	0	13	25	3	2
Increasing elements zero	27	24	3	0	13	25	3	2
Balance	1	0	1	0	0	0	0	0
Tax base: negative	5	26	12	3	27	26	17	12
zero	86	68	76	80	14	68	67	61
Total	91	94	88	83	41	94	84	73
Calculated tax: zero	86	31	20	28	42	27	15	26
Tax allowances: zero	96	99	93	89	90	99	92	90

Source: own calculations based on taxation data on 2008

The value of the earnings before tax was negative or zero in 20-41% of the food processing enterprises (depending on the size of the enterprise), while in agricultural sector this proportion was between 11 and 30% in large and medium enterprises. The share of enterprises which did not apply any decreasing and increasing elements were at the same level in each size category in both sectors.

The main objectives of using the correction elements at earnings before taxes are the following:

- to avoid the money withdrawal from income without paying the tax
- to make sanctions for the different enterprises,
- to improve the economic background of enterprises,
- to encourage enterprises to undertake different public responsibilities in accordance with their activities and the relevant regulations,
- to exclude double taxation.

When analyzing the balance of the correct elements, it may be observed, that the decreasing elements represented the dominant role in each size category. Large

enterprises (mostly in food processing industry) were the beneficiaries of these corrections. If we compare the sum of the decreasing elements of the earnings before taxes connected to R&D activities with the total decreasing elements we will actually get a zero value.

In 83-91% of the enterprises, the calculated tax base in agricultural enterprises was zero or negative. In food processing industry, the situation was very different; in large and medium sized enterprises, the proportion of those with negative tax base was 41% and 73% respectively. In case of calculating tax the difference between large enterprises of the agricultural and food processing sector was significant.

The calculated tax was zero in more than 90% of large agricultural enterprises. Under such circumstances, it is clear that most of the enterprises could not have the opportunity for the deduction of their taxes the tax allowances for improving their R&D activities. These observations are proven by the results of another Hungarian research published by Szabóné et al. (2011).

The value of the correct elements and their share, which is used for R&D activities are detailed in Table 8.

Table 8: Value of correction elements per one enterprise in agricultural and food processing sector (in 1000 HUF)

Correction elements of earnings before tax	Agriculture				Food processing industry			
	large	micro	small	medium	large	micro	small	medium
Decreasing elements (-)	266 300	5 211	53 071	191 213	2 159 661	2 176	20 779	137 007
Increasing elements (+)	204 530	3 396	34 645	141 624	1 945 726	1 710	14 716	113 944
Balance (-)	61 771	1 815	18 426	49 588	213 936	466	6 063	23 063
Decreasing elements on R&D&I activities	266	0	18	140	1 554	2	29	263
Share of the value of decreasing elements on R&D&I activities compared in the value of all decreasing elements	0.10%	0.00%	0.03%	0.07%	0.07%	0.09%	0.14%	0.19%

Source: own calculations based on taxation data of 2008

Conclusions

The R&D&I activities of enterprises (including SMEs) may be influenced by state regulations, for example by tax allowances connected to the Corporate Income Tax. In 2008, 14 tax allowances were connected to R&D&I activities in accordance with the corporate tax law. Agricultural enterprises could take the advantages of only 9 from these 14 allowances, while the food processing enterprises could use 11). Tax allowances that may be deducted from tax payable were not dominant either in agricultural or in food processing enterprises. Its main reason is the lack of tax liabilities from which it could be deducted.

The most popular option was the tax allowance for the wage costs on software developments in both sectors, even if software development had not been a significant activity in the agricultural enterprises. Enterprises mostly could use the deferred option for this allowance.

From the analysis of the average values of allowances it can be stated, that the more successful large and medium sized enterprises are working in the food processing industry and the sum of allowances was higher in this group. The number of beneficiaries of the allowances was rather low in both sectors, but the average values of allowances per enterprises were at acceptable level.

It is very difficult – mostly in long-term period – to meet the criteria for the application of these allowances, thus a simpler and a more transparent regulatory framework would be of great use as well as the further reductions of administrative burdens and the reformation of the regulatory system in order to be transparent. The value of the average allowances and the number of beneficiaries were lower in the agriculture than in the food processing industry.

In addition to the regulatory constraints, the profit generating capacity of the enterprises is very low; there are many unprofitable enterprises with zero level of earnings before taxation.

The correction elements of the earnings before taxes have represented a favourable effect only for large and medium enterprises. The use of correction elements has made the corporate tax calculation process very complicated. Greater part of the enterprises did not use the correction elements.

The results of our research has underlined that a large number of the Hungarian enterprises cannot take the advantages of the possible tax allowances. For those enterprises where the use of tax allowances is only a theoretical possibility because of the negative financial results, tax allowances may be converted into support (negative tax) option.

Some of the tax decreasing elements, which were in force in 2008, were ceased in 2012 from the corporate tax law, and the government did not introduced new elements instead of them until 2013. A positive governmental attitude could improve the situation of new enterprises with innovative activities.

It would be useful to differentiate the activities of enterprises when formulating new allowances. Agricultural enterprises could not use most of the opportunities. For example, the sustainability of agricultural production is one of the most important issues of our time, and from this point of view, the agricultural innovation would be a very important aspect. As the natural resources are decreasing continuously, a radical change in the structure of agricultural production and the introduction of alternative technologies would be necessary in order to maintain the environment and the rural communities. These processes should be supported by a new type of allowances.

The differences between regions should also be considered during the legislation process of new tax allowances. The improvement of opportunities and the possible tax allowance types should be needed and should be treated with higher priority, especially in regions with a high unemployment rate. I would improve the development of agricultural enterprises, which may play extremely important role in the employment of rural communities.

The current regulation contains such elements; however, the results of our research shows that the motivation factors of these incentive elements are far from being effective. Our results have confirmed that the Central Hungary region is in more favourable situation than the other Hungarian regions.

To utilize tax allowances is probably the most important for the small enterprises in order to stay in business and increase their sources for development. The analysed regulatory system has failed to fulfil this task. The corporate tax regulation (rates, allowances, correction elements) did not create a competitive edge for the smaller enterprises.

According to the results of the analysis of our primary data, we get similar results as Csizmadia and Grosz (2011). The SMEs of the agricultural sector are far behind the food processing industry in the field of R&D&I activities. The expenses given for R&D&I activities were at very low level in the examined period, which is resulted by the very low level of financial resources. A great share of these enterprises was unprofitable, or their earnings before taxes were zero. They had not enough financial resources for conducting innovative or R&D activities. Therefore, they could not use the available tax allowances, because they did not have such activities which could be a base for deductions, or, they had no enough financial bases to deduct the allowances from.

In the present economic circumstances the Hungarian SMEs are not strong enough to conduct R&D activities; they will be able only for adaptation of the future innovation results. Of course, for the success of this process, the proper institutional and financial background should be established. The state shall strengthen the direct and indirect institutional tools, and they shall establish such conditions and requirements, which may be fulfilled even by small enterprises. Finally, the improvement of the knowledge of the human resource, their openness for the novelties, and the innovative attitudes of the entrepreneurs shall also be improved.

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