

IMPACTS OF CORPORATE TAXES ON THE R&D&I ACTIVITIES OF AGRICULTURAL ENTERPRISES

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ABSTRACT

After the political and economic changes of the 1990ies, the economic role of small and medium enterprises showed a significant increase in Hungary. Innovation plays a key role in maintaining and improving competitiveness of enterprises and in the efficient use of production factors. Innovation basically depends on the competences and motivations of enterprises/entrepreneurs, but it is also influenced by the possible incentives of government regulation. The incentives system may be very complex, consisting of different legal, economic and financial tools.

The most important elements of economic incentives system are supports and tax policy incentives. Different support tools may target the strategic goals of innovation, while tax allowances may be an improving tool for motivating the enterprises for innovative thoughts and activities.

The research that established the results of this paper focuses on the state tax regulations (specifically capital gains tax) which contain several elements for motivating the R&D&I activities of enterprises. In this paper, we introduce the elements of corporate taxes that may encourage the R&D&I activities of small and medium enterprises, we explore how agricultural enterprises could utilize the special R&D&I tax allowances. Furthermore, we also make suggestions for the R&D&I incentives system in order to improve their more efficient use in small and medium enterprise sector.

KEYWORDS: small and medium enterprises, R&D, innovation, taxation, competitiveness

INTRODUCTION

In Hungary, the 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.

From the general point of view, competitiveness of a country's enterprises may be improved by the well-reformed taxation system of the given country. On the contrary, according to other opinions, taxation does not have influence on competitiveness; it is determined more by other factors, such as the comparative advantages of the country, the knowledge level of the labour force, the level of the wages, the infrastructure, the geographical situation etc. Tax system may also be regarded as one of these elements. The 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.*, 2011)

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. According to *Schumpeter's* (1980) well-known and well-adopted opinion, innovation plays a key role in promoting economic development. According to the EU report titled „*Innobarometer 2009*” the share of 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. *Fekete-Farkas and Gonda* (2012) also agree with this statement, as according to their opinion the fiscal policy can support R&D activities by special tax allowances.

As research, development and innovation activity is one of the most important pillars of long-term sustainable growth its efficiency should be increased by concentrating and broadening the inputs of R&D&I. Its guidelines are summarized in a strategic document compiled by the Ministry for National Economy entitled ‘Investment for the future – National Research, Development and Innovation Strategy 2020’. The strategy declares that the state shall support the natural specialization processes of the market by direct and indirect tools (for example tax allowances, capital market tools, application systems and innovation policy). Instead of direct investments in the different industries, the main task of the state is to establish the favourable institutional and economic background.

MATERIAL AND METHODS

For our calculations, 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 (abbreviated name in Hungarian is NAV, formerly APEH). As the original database was very complex, the variables were filtered, reduced or transformed and new variables were formed for the further analysis. The data file was processed in the SPSS (Statistical Package for Social Sciences) program.

The main features of the examined agricultural and food processing enterprises were the following:

- the proportion of the agricultural and food processing small and medium enterprises was nearly in balance within the group,
- within the group of SMEs the share of agricultural micro enterprises was higher than in the food processing industry,
- in each SME group the share of joint stock company form was significantly higher among agricultural enterprises than in the food processing industry,
- in the Central Hungary Region the share of agricultural enterprises was smaller,
- the average proportion of foreign ownership was higher among agricultural enterprises in each SME groups compared to food processing industry,
- in all agricultural enterprise groups the proportion of those without foreign ownership was lower,
- the average amount of capital stock was significantly lower in agricultural enterprises than in the food processing industry.

RESULTS AND DISCUSSION

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

In 2008, 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. 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 years.

A. Comparison by 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; therefore, the R&D activities had to 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 agricultural sector than in food processing industry in the small enterprises 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 credits 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.

B. 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 sum of allowances. The number of enterprises that used the available allowances was rather low in both sectors. The number of beneficiaries of the tax allowances was not significant among either the large or the medium sized enterprises.

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.

C. Comparison by the average value of tax allowances

- In case of large enterprises, the average value of tax allowances exceeded significantly those in the agricultural sector.
- In the group of micro enterprises the higher average values could be observed among agricultural enterprises. 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.

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

D. 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 correction elements, the tax base and the tax allowances. Table 1 shows the differences of these characteristics in different sized enterprises in both sectors.

Table 1: 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 by taxation data of 2008 from Hungarian Tax and Financial Control Administration

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 categories in both sectors.

When analysing the balance of the correction elements, it was observed that the decreasing elements represented the dominant role in each size categories. 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 get 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 calculated 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 opportunity for the deduction of their taxes the tax allowances for improving their R&D activities. (*Szabóné - Pataki, 2011*)

CONCLUSION

- 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.
- 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 wages 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 agricultural sector than in the food processing industry.
- In addition to the regulatory constraints, the low 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 represented a favourable effect only for large and medium enterprises.
- 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 issue 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 new type of allowances.
- When defining tax allowances the differences between regions need to be considered, especially the improvement of opportunities of regions with a high unemployment rate would need to be treated with high priority. The current regulation contains such components; however, the result of my research shows that the motivation factors of these components are far from being effective.

- 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.

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