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THE IMPACT OF THE PUBLIC SUPPORT FOR R & D ON THE ECONOMIC PERFORMANCE OF SMES

Ivana Blažková[1]

[1] Department of Regional and Business Economics, Faculty of Regional Development and International Studies, Mendel University in Brno, Zemědělská 1, 613 00 Brno, Czech Republic

Abstract

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The article is focused on evaluation of impacts of the project support for research, development and innovations on the economic performance of small and medium-sized enterprises. The set of analysed enterprises was composed of 182 SMEs operating in the Region of South Moravia in the Czech Republic, which were active in R & D in 2012 and 2013. There were evaluated public sources of funding for innovation activities and selected financial ratios of economic performance. The hypotheses about the relationship between the amount of public support and profitability of enterprises were set up and statistically tested. The analysis proved sufficient level of profitability and liquidity of the SMEs involved in research, the worst economic performance of the smallest enterprises and the direct positive relationship between the amount of public support and the profitability in two size groups of enterprises, which refers to the positive impact of the public support on the economic performance of SMEs.

Keywords: research and development, innovations, small and medium-sized enterprises, project support, economic performance, financial ratios

INTRODUCTION

It is undisputable that innovations and innovative way of thinking play the key role in ensuring sustainable economic growth at the present stage of development, which implies also their importance for the development of individual regions. There is a wide range of opportunities to promote stability and development of regions, of which as crucial there can be considered support of scientific and technological research, support of innovative technologies and technology transfer from the research phase to the implementation of innovative solutions in production.

From the perspective of the development and promotion of regions it is important primarily the support for the innovative companies in the area of small and medium-sized enterprises (hereinafter referred to as "SMEs"). The importance of SMEs should be mentioned due to their ability to create new working places, to create and change enterprise climate within the region for future generations and to maintain a competitive environment due to innovations. As stated by Jáč *et al.* (2005), small and medium-sized enterprises belong to the main bearers of innovation process due to their flexibility, creativity, simple organisational structure and personal responsibility of owners for the success of the firm in the market. According to the definition of the European Commission (2003, 2005) „the category of micro, small and medium-sized enterprises is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro". SMEs are socially and commercially constitutional, since they constitute 99% of all enterprises in the European Union, they convey approximately 90 million of job opportunities and conduce to entrepreneurship and innovation. In the Czech Republic the share of the total number of active enterprises taken by SMEs in 2012 was 99.86%. The share of value added from SMEs in 2012 amounted to 53.81% (Ministerstvo průmyslu a obchodu ČR, 2013).

In today's competitive environment, the speed and frequency of changes, which must be implemented by small businesses, are becoming an essential prerequisite for their survival and success. This can be confirmed by a survey of the Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic, which states that 58% of small and medium-sized enterprises engage to innovations. However, SMEs do not plan innovation in the long-term and they spend on innovation process approximately 1–10% of their total annual turnover (AMSP ČR, 2012).

The EU policy remembers to support research and development in its main strategic documents. Research policy is one of the basic elements of the Lisbon Strategy. The Lisabon Strategy in 2000 had set the aim to make the EU "the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion", by 2010 (European Union Parliament, 2000). Member States should invest 3% of GDP to research and development (hereinafter referred to as "R & D") 2020 (1% from public funds and 2% from the private sector). This would create 3.7 million of new jobs and contribute to an increase in the annual GDP of the European Union by almost 800 billion Euros (European Commission, 2014).

The goals of the Lisabon Strategy were not achieved, however this strategy was replaced with the new strategy Europe 2020 where innovations and knowledge are again considered as priorities and important sources of economic development (European Commission, 2010). The emphasis on innovations is placed also within the regional policy which confirms the importance of regions in economic development based on research and innovations. The support of innovations in the regions is also highlighted by the representatives of institutional theories of regional development (Cook and Piccaluga, 2006; Nelson, 2005).

The Czech Republic also recognizes that the creation and diffusion of innovation as well as the support of R & D at the state level contribute significantly to the development of regions. There are evidences of increasing investments from the Czech state budget and efforts to increase the efficiency of the entire system. While in 2001, total spending on research and development in the Czech Republic was 28.3 billion CZK and represented 1.16% of GDP, in 2012 this figure has already reached 72.4 billion CZK, which corresponded to 1.89% of GDP in the Czech Republic (Ministerstvo zahraničních věcí ČR, 2013).

In the Czech Republic there are considerable differences between individual regions. Research institutions are highly concentrated, which is documented in available statistics. Besides Prague and its background represented by the Region of Central Bohemia, the Region of South Moravia can be considered as an important centre of R & D, mainly due to the position of Brno. The importance of this region in the field of R & D is confirmed by the development in the last decade. Between 2001 and 2012, the number of research workplaces in the Region of South Moravia has more than doubled, from 182 to 466 (higher number was only in Prague – 680), both in the university sector (from 13 to 35) and especially in the business sector (from 127 to 392). The share of the Region of South Moravia on the total number of research workplaces in the Czech Republic was 16.8% in 2012. The situation is also similar for other characteristics of R & D. Total expenditure on research and development in the Region of South Moravia in 2012 amounted to 14 654 million CZK (20.3% share on total expenditure of the Czech Republic), higher expenses were only in Prague (25 337 million CZK, i.e. 35%). In terms of business expenditure on R & D, over 50% (namely 55.1% in 2012) is accounted for only three regions – Prague 26% (10 090 million CZK), the Region of South Moravia 16% (6 193 million CZK) and the Region of Central Bohemia 13.1% (5 079 million CZK) (Český statistický úřad, 2013).

Literature Review

There is a growing concern about the role of public support for R & D carried out by private enterprises and its impact on their R & D decision-making. It is no doubt that private sector investments in innovation are crucial for the enhancement of economic growth and welfare. However, the private sector is likely to invest sub-optimally in R & D because of appropriability problems and potential market failures in the provision of private funding to R & D (Takalo, 2013). Klette *et al.* (2000) justifies public R & D support and its importance due to the fact that markets fail to provide incentives to private firms to achieve the socially optimal level of private R & D efforts and therefore.

Governments around the world increasingly recognize the benefits of supporting R & D investment and therefore are increasingly allocating a wide range of public instruments in R & D to raise the level of R & D investment in the economy. As published by OECD (2013), the OECD governments on average invested the equivalent of 0.8% of GDP in direct funding of R & D at home or abroad in 2012 and 27 of the 34 OECD countries and a number of non-OECD economies now indirectly support business R & D via tax incentives.

The surveys on the impact of the public support for R & D on the business performance and business innovation activity are concerned on the impact of government R & D subsidies (e.g. David *et al.*, 2000; Cerulli, 2010) and on effects of fiscal incentives on private R & D investment (e.g. Harris *et al.*, 2009; Lokshin and Mohnen, 2012).

Guellec and Van Pottelsberghe De La Potterie (2003) quantified the aggregate net effect of government funding on business R & D in 17 OECD member countries over two decades and concluded that direct government funding of R & D performed by firms and tax incentives have a positive effect on

business financed R & D. According to their findings, public R & D expenditures are more effective when they are stable over time – firms do not invest in additional R & D if they are uncertain of the durability of the government support.

There is the evidence on the effects that R & D subsidies have on the R & D effort of recipients, and on the probability that a firm will participate in a program granting R & D subsidies. For example, Busom (2000) has researched the cross-section sample of Spanish firms and founded out that small firms are more likely to obtain a subsidy than large firms, probably reflecting one of the public agency's goals, and that firm size remains related to effort, whether or not a firm gets public funding. Generally, public funding induces more private effort (but for about 30% of firms included in the survey full crowding out effects cannot be ruled out). Also Romero-Jordán *et al*. (2014) confirmed that public grants are used especially by SMEs to alleviate financial constraints in comparison with large firms that use especially tax credits as a reduction in the tax burden in the corporate tax. Almus and Czarnitzki (2003) analyzed the effects of public R & D policy schemes on the innovation activities of firms located in Eastern Germany and according their findings firms increased their innovation activities by about four percentage points in comparison to the case where no public financial means were provided.

The views on governmental R & D policy and the effectiveness of resources spent in R & D in the Czech Republic are discussed in the literature as well (see e.g. Bohatá, 1999; Dočekalová and Bočková, 2013; Putićová and Mezera, 2009; Piekut, 2013). There is a need to focus the attention on the options to create a coherent governance framework for public R & D and to make the allocation of research funds efficient in the Czech Republic. It is also useful to make assessment of changes in R & D tax allowances and the strategy for giving direct support to innovative SMEs and to consider what reforms are needed to help the creation of stronger science-industry links (Goglio, 2006).

MATERIAL AND METHODS

Sources of innovation potential for enterprises may be external or internal. Practice shows that the firm's own research may be targeted, timely and financially more effective than getting the results of research and innovation from other parties. Research is also a high-risk activity with uncertain return. The current system of R & D support can be considered as a functional model of support, but the impact on various entities may be different.

The aim of this paper is to evaluate the impact of the use of project supports by SMEs on the overall economic performance of these enterprises. The analysis is based on the assumption that there is a positive relationship between the amount of public support and profitability of enterprises, which results from qualitative research conducted by Blažková and Maršálková (2014).

To obtain the data for processing the research there were selected and addressed three groups of small and medium-sized enterprises divided according to the company's size, which was defined according to the number of persons employed – companies with 1–19, 20–49 and 50–249 employees. A total of 182 SMEs were included in the research. The set of analysed enterprises was composed of small and medium-sized enterprises operating in the Region of South Moravia in the Czech Republic, which were active in R & D in 2012 and 2013 and whose financial data were available. The distribution of enterprises in particular size categories was as follows – 83 enterprises in the category of the smallest enterprises with 0–19 employees, 52 enterprises in the category of small enterprises with 20–49 employees and 47 enterprises in the category of medium-sized enterprises with 50–249 employees.

To achieve the goal the research process consists of the following steps: (1) the sources of public funding for innovation activities, i.e. the amount and provider, were evaluated in the size categories of SMEs; (2) selected indicators of economic performance were calculated to assess the overall economic performance of the enterprises; and (3) the relationship between the amount of the project support and profitability of enterprises was statistical tested.

The data required for evaluation of applied research and innovation in particular firms were drawn from the database of the Research, Development and Innovation Council of the Czech Republic available in the online application (Rada pro výzkum, vývoj a inovace, 2014), for evaluation of the economic performance of enterprises the data published by Bisnode in the corporate database Albertina were used (Bisnode Česká republika, 2014).

The Spider Analysis method was used for the evaluation of the economic performance of enterprises, which is a useful tool for this type of analysis (e.g. Blažková, 2010; Mejstříková *et al*., 2011). The Spider diagram is made from 8 half-axes with percentage scale, there are chosen ratio numbers on them (see Tab. I). Higher values of the ratios mean better results and longer distance from the centre of the diagram.

On the basis of data from 182 enterprises in 2012, the assumption about positive relationship between the amount of public support (y = s) and profitability of enterprises (x = ROA) was verified in the three size groups of enterprises with the use of statistical hypothesis testing. The statistical program STATISTICA (StatSoft CR s. r. o., 2013) was used for calculations. The null hypothesis was rejected or accepted on the basis of statistical significance (the significance level $\alpha = 0.05$).

I: *Financial ratios used in Spider diagram*

$\text{ROE (Return on Equity)} = \frac{\text{Profit after Tax}}{\text{Equity}}$
$\text{ROA (Return on Assets)} = \frac{\text{Profit after Tax}}{\text{Total Assets}}$
$\text{Cash Ratio} = \frac{\text{Short-term Financial Assets}}{\text{Current Liabilities}}$
$\text{Quick Ratio} = \frac{\text{Total Current Assets-Stocks}}{\text{Current Liabilities}}$
$\text{Liabilities Turnover} = \frac{\text{Sales}}{\text{Total Liabilities}}$
$\text{Outstandings Turnover} = \frac{\text{Sales}}{\text{Total Outstandings}}$
$\text{Equity Ratio} = \frac{\text{Equity}}{\text{Loan Capital}}$
$\text{Internal Financing Rate} = \frac{\text{Equity}}{\text{Total Assets}}$

Source: author (based on Kislengerová, 2007)

The null hypothesis H_0: The profitability is not positively correlated with the amount of public support (H_0: $\rho_{yx} = 0$).

The alternative hypothesis H_1: The profitability is positively correlated with the amount of public support (H_1: $\rho_{yx} > 0$).

RESULTS AND DISCUSSION

Support of R & D in the Czech Republic and in the Region of South Moravia

According to Commission Regulation (EC) No 364/2004 (European Commission, 2004) any help for basic and applied research can contribute to economic growth and strengthening competitiveness. The help for research and development in SMEs is of high importance, because the difficulty to have an access to new technological developments is the main structural disadvantage of SMEs.

International comparison of the Czech Republic proved that despite the positive annual change, innovation performance of the economic environment was still below the average of the EU 27 and thus ranks the Czech Republic among the group of average innovators (Úřad vlády, Rada pro výzkum, vývoj a inovace, 2014). The most important factor that limits innovation activities of companies is mainly the lack of financial resources. According to the Czech Statistical Office (2013) almost half of the Czech companies (43.9% in 2010–2012) shows innovative activity. When comparing the intensity of innovation activities within the EU, the Czech Republic belongs to the middle of ordered states. The first position has Germany, where almost 80% of all enterprises shows the innovative activity (Úřad vlády, Rada pro výzkum, vývoj a inovace, 2014).

Based on the Tab. II it can be said that in the field of science and research there is a positive development in the Czech Republic in recent years – while in 2010 total expenditures on R & D reached 53 billion CZK, in 2013 it was already almost 78 billion CZK. In relative terms, the share of expenditure on R & D on the GDP increased from 1.4% in 2010 to 1.9% in 2013. From the long-term perspective, it is positive that the expenditures on R & D increased in recent years both in the Czech Republic as a whole and in the Region of South Moravia despite the unfavourable development of the Czech economy (Český statistický úřad, 2014).

The significant source of funding the public research remains the state budget (Úřad vlády, Rada pro výzkum, vývoj a inovace, 2014). In terms of the structure of support from the state budget for R & D the amount of support is varying according to particular providers (see Tab. III). Generally, the highest support for R & D was provided by Ministry of Industry and Trade of the Czech Republic (hereinafter referred to as "MIT CR") in all of the observed size groups of SMEs. Another important provider is Technology Agency of the Czech Republic (hereinafter referred to as "TA CR"). Other providers included in Tab. III are Ministry of Education, Youth and Sports of the Czech Republic (hereinafter referred to as "MEYS CR"), Ministry of Agriculture of the Czech Republic (hereinafter referred to as "MA CR"), Ministry of Interior of the Czech Republic (hereinafter referred to as "MI CR"), Ministry of Defence of the Czech Republic (hereinafter referred to as "MD CR") and Czech Science Foundation (hereinafter referred to as "CSF").

II: *Support of R & D according to funding sources in the Czech Republic and in the Region of South Moravia (million CZK)*

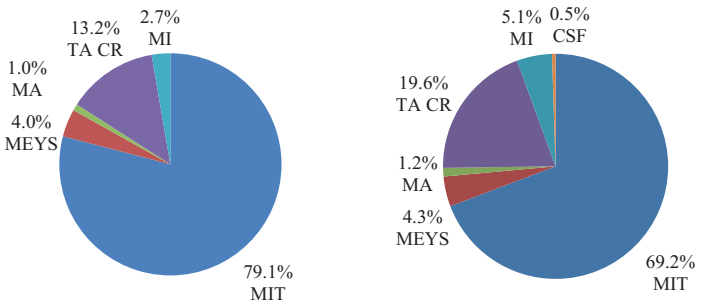
	2010	2011	2012	2013
Entrepreneurial sources – Czech Republic	21 597	23 648	26 328	29 269
Entrepreneurial sources – Region of South Moravia	2 323	2 542	3 184	3 797
Public sources – Czech Republic	23 539	26 179	26 616	26 987
Public sources – Region of South Moravia	3 881	4 449	4 812	5 210
Czech Republic – total	52 974	62 753	72 360	77 853
Region of South Moravia – total	8 411	11 170	14 654	16 360

Source: Český statistický úřad (2014)

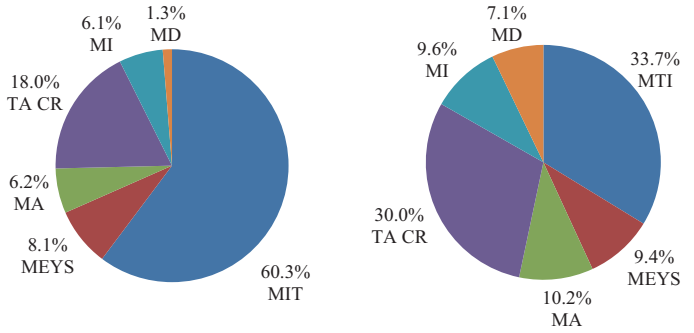
III: *Support structure according to state funding providers in SMEs active in R & D in the Region of South Moravia in 2012 and 2013 (million CZK)*

Year	Size Group	CSF	MIT CR	MEYS CR	MA CR	TA CR	MI CR	MD CR	Total
2012	0–19	0	200 630	10 262	2 411	33 548	6 887	0	253 738
	20–49	0	131 966	17 840	13 639	39 396	13 348	2 815	219 004
	50–249	2 917	138 678	17 555	1 948	58 479	1 941	0	221 518
2013	0–19	970	133 219	8 312	2 374	37 783	9 748	0	192 406
	20–49	0	52 153	14 516	15 759	46 313	14 833	11 028	154 602
	50–249	2 771	115 604	8 831	1 293	92 258	5 270	1 226	227 253

Source: Author's calculations on the basis of the Research and Development and Innovation Information System of the Czech Republic (Rada pro výzkum, vývoj a inovace, 2014)



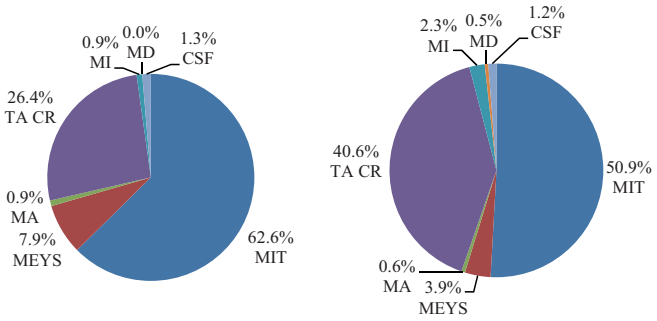
1: *Share of funding of R & D by particular state providers in enterprises with 0–19 employees active in R & D in the Region of South Moravia in 2012 and 2013*
Source: Author's calculations on the basis of the Research and Development and Innovation Information System of the Czech Republic (Rada pro výzkum, vývoj a inovace, 2014)



2: *Share of funding of R & D by particular state providers in enterprises with 20–49 employees active in R & D in the Region of South Moravia in 2012 and 2013*
Source: Author's calculations on the basis of the Research and Development and Innovation Information System of the Czech Republic (Rada pro výzkum, vývoj a inovace, 2014)

Fig. 1 shows that funding of R & D from MIT CR and TA CR represents in the case of the smallest enterprises (with 0–19 employees) almost 90% of total state funding. The situation is similar in the case of medium-size enterprises (with 50–249 employees), which also use especially the support from MIT CR and TA CR (see Fig. 3).

The different distribution of support is in the case of small enterprises (with 20–49 employees), which use more also other support options, e.g. projects of MA CR, MD CR or MI CR, as seen in Fig. 2. This follows from the fact that enterprises of this size, that are neither too small nor too big, often try to participate in all the projects offered, although sometimes they may not produce innovative results for the company and are not beneficial in the long run, but they are useful due to the contribution to the payment of employee wages. The smallest enterprises have lower stability, they must consider for which project to apply, and if they gain money from a project, they are facing frequent and thorough inspections. The project support also requires



3: *Share of funding of R & D by particular state providers in enterprises with 50–249 employees active in R & D in the Region of South Moravia in 2012 and 2013*
Source: Author's calculations on the basis of the Research and Development and Innovation Information System of the Czech Republic (Rada pro výzkum, vývoj a inovace, 2014)

IV: *Descriptive statistics of the variables used for evaluation of economic performance of 182 enterprises in 2012*

Variable	Mean	Standard Deviation	Coefficient of Variation	Min	Max	Lower Quartile	Median	Upper Quartile
ROE	0.131	0.334	255.727	–1.492	2.871	0.023	0.089	0.206
ROA	0.060	0.095	158.306	–0.384	0.349	0.018	0.051	0.115
Quick Ratio	1.914	1.600	83.611	0.126	10.971	1.040	1.389	2.353
Cash Ratio	0.797	0.958	120.237	0.003	6.471	0.202	0.563	0.945
Liabilities Turnover	4.090	3.862	94.447	0.031	20.517	1.428	3.043	5.390
Outstandings Turnover	3.952	5.308	134.316	0.043	52.424	1.666	2.900	4.838
Equity Ratio	2.570	3.181	123.766	0.009	13.789	0.490	1.139	3.803
Internal Financing Rate	0.534	0.263	49.253	0.009	0.932	0.338	0.534	0.773

Source: Author's calculations processed in program STATISTICA (StatSoft CR s. r. o., 2013) on the basis of the database Albertina (Bisnode Česká republika, a. s., 2014)

a high co-financing, which may be a problem for the smallest enterprises. Large enterprises, on the other hand, have little need for subsidized projects because they are able to carry out R & D with their own money. Large companies often operate in many regions or countries and therefore local and regional subsides are questionable for them.

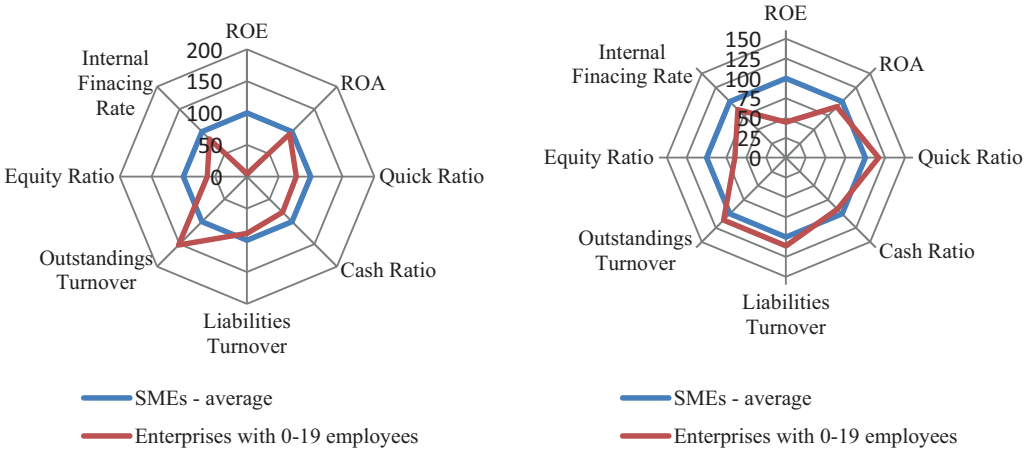
Economic Performance of SMEs Active in R & D in the Region of South Moravia

Tab. IV shows the descriptive statistics of variables used for evaluation of economic performance of 182 enterprises involved in the analysis in 2012. The data are relatively heterogenous, with relatively high standard deviations and coefficients of variations for all variables, which derives from the diversity of the analysed enterprises. It is observed that the average profitability is on the sufficient level – the average value of ROE indicator is 13.1%, the average value of ROA indicator is 6%. It is also seen that more than half of the SMEs involved in the analysis use more equity than loan capital to finance their activities – the median of the equity ratio indicator is 1.14.

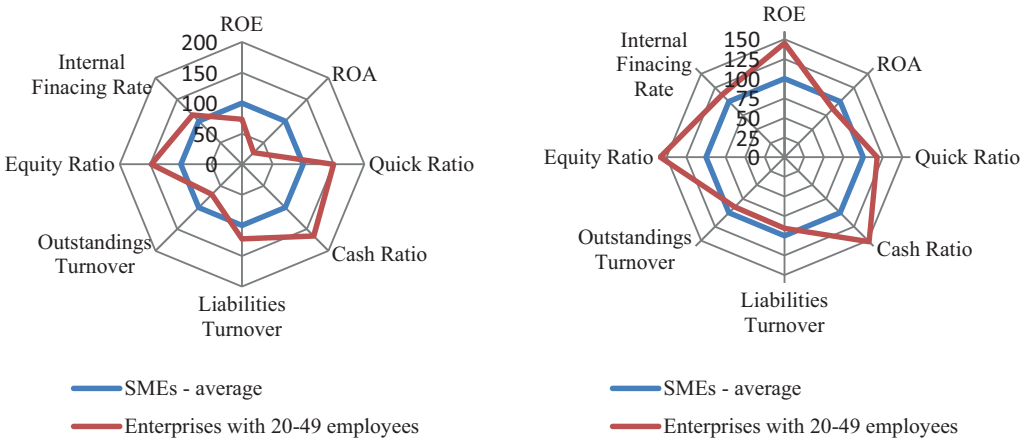
The economic performance of three size groups of enterprises compared with the average values of the total set of enterprises is presented in Figs. 4, 5 and 6. The graphs in Fig. 4 show worse overall economic position of the smallest enterprises in both years in comparison with the graphs in Figs. 5 and 6. Lower values are observed especially in the area of profitability – e.g. in 2012 the smallest enterprises reached in average the value of ROE only 0.22% compared to the average value of SMEs analysed. From the viewpoint of liquidity the smallest enterprises reached almost average values in 2013 and in 2012 they reached about 78% of the average value of SMEs analysed. Lower than average values were found out in both indebtedness ratios – the internal financing rate was 44.8% in 2012 and 46.0% in 2013 in comparison to other size groups of enterprises, whose internal financing rate was over 50%.

From the viewpoint of profitability the enterprises with 50–249 employees have above-average results in both analysed years as seen in Fig. 6. In 2013 the profitability was high also in the group of enterprises with 20–49 employees (see Fig. 5), where the average value of ROE was 12.4% even if these enterprises use the highest proportion of equity for financing their activity (60.3% in 2013).

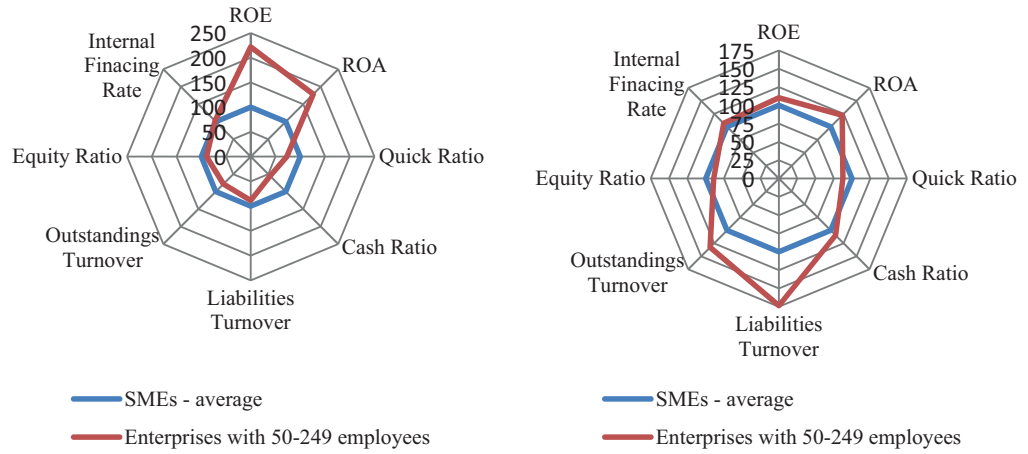
The analysis proved sufficient liquidity in all size groups of given enterprises – the average values of quick ratio in both years are about 2.0 in all size groups of enterprises and the average values of cash



4: *Economic performance of enterprises with 0–19 employees in 2012 and 2013 within SMEs*
Source: Author's calculations on the basis of the database Albertina (Bisnode Česká republika, a. s., 2014)



5: *Economic performance of enterprises with 20–49 employees in 2012 and 2013 within SMEs*
Source: Author's calculations on the basis of the database Albertina (Bisnode Česká republika, a. s., 2014)



6: *Economic performance of enterprises with 50–249 employees in 2012 and 2013 within SMEs*
Source: Author's calculations on the basis of the database Albertina (Bisnode Česká republika, 2014)

ratio are above 0.8, which is above the generally required values. The longer period of liabilities repayment (calculated as 365/liabilities turnover) is observed in the two smaller groups of enterprises – it is around 80 days in average in comparison to 65 days in average in the case of the enterprises with 50–249 employees. Also the period of days sales outstandings (calculated as 365/outstandings

V: *Statistical hypothesis test on the significance level α = 0.05 for three size groups of SMEs*

	Enterprises with 0–19 employees	Enterprises with 20–49 employees	Enterpriseswith 50–249 employees
$r_{x,y}$	0.533122	0.256772	0.476000
t	4.715530	1.721800	3.465693
p-value	0.000016	0.092464	0.001254

Source: Author's calculations processed in program STATISTICA (StatSoft CR s. r. o., 2013)

turnover) is the shortest in the case of the largest enterprises, which positively influences their liquidity.

The Relationship Between the Amount of Public Support and Profitability of Enterprises

The hypothesis about the relationship between the amount of public support and profitability of enterprises was statistically tested on the significance level α = 0.05 for three size groups of enterprises (see Tab. V).

In the case of the smallest enterprises there is a direct linear relationship, but it is not very strong, since the correlation coefficient is 0.5331. The null hypothesis of the independence assumption is rejected on the basis of statistical significance – p-value is less than the given significance level α = 0.05. Hence the alternative hypothesis is accepted on the significance level 1- α.

In the set of the enterprises with 20–49 employees the relationship between the amount of public support and profitability is not confirmed, since the correlation coefficient is 0.2568. The null hypothesis is accepted on the basis of statistical significance level α = 0.05 – the profitability is not positively correlated with the amount of public support.

Not very strong direct linear relationship is observed in the set of enterprises with 50–249 employees, since the correlation coefficient is 0.4760. The null hypothesis is rejected on the basis of statistical significance – p-value is less than the given significance level α = 0.05. Therefore the alternative hypothesis is accepted on the significance level 1- α.

CONCLUSION

The area of research and development in the Czech Republic is significantly concentrated which is confirmed by the key indicators – e.g. numbers of enterprises active in R & D or expenditure on R & D (Ministerstvo zahraničních věcí ČR, 2013; Český statistický úřad, 2014). One of the leading regions is the Region of South Moravia with the city Brno, which has high potential for the development of its economic performance and competitiveness based on knowledge. There is a high concentration of universities and also many innovative enterprises active in research and development in Brno.

It can be stated that the profitability of SMEs active in R & D in the Region of South Moravia in average in 2012 is at a sufficient level, since e.g. ROE indicator of a half of the enterprises reached the value over 8.9%. The worst overall economic position was found out in the group of the smallest enterprises. From the viewpoint of profitability the enterprises with 50–249 employees reached above-average results in both analysed years. The average values of quick and cash ratio showed sufficient level of liquidity in all size groups of SMEs analysed.

The aim of this paper was to examine the impact of the use of project supports by SMEs on the overall economic performance of these enterprises. The paper tested the relationship between public support level and profitability of 182 SMEs divided in three size categories according to the number of employees in 2012. The hypotheses were set up. The null hypothesis was rejected in the case of the smallest enterprises (with 0–19 employees) and in the case of the largest enterprises (with 50–249 employees), hence between the amount of support and profitability of these enterprises the direct linear relationship was validated, however this relationship is not very strong. In the case of the middle-size group of enterprises (with 20–49 employees) the null hypothesis was accepted and the positive correlation between the amount of public support and profitability was not confirmed.

Based on the research, it is possible to make generalizations of results obtained in SMEs active in R & D in the Region of South Moravia in the Czech Republic – in view of the fact that the average overall economic performance of the enterprises is on a good level and the amount of public support for R & D is positively related to the profitability in most cases, the impact of the public support can be assessed as positive.

As in other research, there are also limitations. The economic performance of enterprises can be influenced by many other factors (besides the amount of support), which were not investigated. The evaluation data were reached only in 2012 (and in 2013 in the case of the evaluation of economic performance with the use of Spider analysis). If the data of enterprises in more years were also computed, the counted relationship between support level and profitability could probably differ. On the other hand, it is difficult to create relevant data set of enterprises active in R & D in the long term, since the project support is often short-term (e.g. 1–3 years), and moreover, the impacts of the support

use may be proved after a longer period. A deeper view on the relationship between the support level and the performance of enterprises in the long term and in other regions would be interesting.

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Contact information

Ivana Blažková: blazkova@mendelu.cz