



GRANTS, ENTERPRISE INNOVATIVENESS AND EFFICIENCY

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ABSTRACT

Purpose: This paper investigates associations between the grants, enterprise efficiency and innovativeness using a combination of enterprise accountancy data and unique in-depth enterprise level survey data. Enterprises in Slovenia can obtain investment and research and development grants from different Slovenian and European Union funds. The focus of the study is on grants for co-financing of purchases of new technological equipment with aim to increase enterprise innovativeness and production of new products.

Methodology: The paper employs unique in-depth survey analysis conducted in the enterprises, which have received grants for innovation activities. The focus of the analysis is on the following four economic-financial indicators: total revenues, number of employees, values of profit and value-added per employee. The principal component analysis and multiple regression analysis are used to test the hypotheses on increase of the value of the four economic-financial indicators and their comparisons.

Findings: During the period 2006-2011, in Slovenia, there were 793 enterprises, which received more than 135.3 million euro of grants. The principal component analysis revealed four principal components: supports for innovativeness, procedures and standards for innovation, innovation as condition and the ways of innovation. The multiple regression analysis confirmed the association between innovativeness as a condition and enterprise efficiency, but not for the other three principal components.

Originality: This is the first research to combine enterprise accounts, grants and survey data in order to quantify the impact of grants from public procurements on the economic-financial indicators and on innovativeness. The originality represents the empirical analysis combining secondary enterprise accounts and public procurement data with unique in-depth survey enterprise level data.

Keywords: grants, enterprise innovativeness, enterprise economic-financial efficiency, Slovenia.

Category: Research paper

INTRODUCTION

In the European Union (EU) countries, European Commission allocates direct financial contributions in the form of grants to projects or organizations that promote European interests or participate in the implementation of EU programs and policies (European Commission 2010). On 18 June 2007, the European Commission confirmed NSRF (National Strategic Reference Framework) to Slovenia as to the thirteenth of 27 EU Member States and it includes priorities, indicative annual allocations, and list of operational programs. The

general orientation of the NSRF is to improve the well-being of the population of Slovenia by promoting economic growth, creating jobs and strengthening human capital and ensuring a balanced and harmonious development, particularly between regions. On one hand, this orientation defines prosperity as a global goal, and on the other hand, it places particular emphasis on promoting economic growth and job creation, which are the key objectives of the Lisbon Strategy, as well as balanced regional development. Small and medium-sized enterprises are eligible for assistance in the form of grants, guarantees and loans.

Economic growth is one of the major objectives economic policies (e.g. Bojnec and Fertó, 2012). The countries that are developing dynamically towards the knowledge society are characterized by (OP KRRP, 2008, 19):

- Intensive investment in research and development (R&D);
- Have developed close connection between public research and education sectors and the economy;
- Experience high degree of innovation;
- Are abounded with highly skilled labour force, and
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Have developed good information infrastructure with support of good quality of institutions. The paper aims to investigate associations between the grants co-financing, enterprise efficiency and innovativeness using a combination of enterprise accountancy data and unique in-depth enterprise level survey data. The focus of the empirical research is on grants from public tender P4 for co-financing of purchases of new technological equipment with aim to increase enterprise innovativeness and production of new products. The rest of the paper is structured from the following additional three sections. The second section explains specific grants devoted to supportive environment for entrepreneurship and public tender P4. The third section explains and analyses innovation activities in the enterprises. The fourth section tested the hypotheses on an impact of grants from public tender P4 on the performance and innovation of the enterprises. The final section derives conclusions and implications.

GRANTS

1 Supportive Environment for Entrepreneurship

ERDF (European Regional Development fund) constitutes a financial instrument of the European cohesion policy aimed to strengthen economic and social cohesion and help to redress the main development imbalances in the Community regions.

In the background paper on the promotion of entrepreneurship and competitiveness (updated program of measures to encourage entrepreneurship for the period 2007-2013), a program of measures is based on four basic pillars that are connected to each other in a whole:

1. Promoting entrepreneurship and entrepreneurship-friendly environment;
2. Knowledge for the economy;
3. Development and innovation in the economy;
4. Promotion of small and medium-sized enterprises through equity and debt financing.



The first pillar measures are aimed at promoting entrepreneurship and entrepreneurship education with a view to improve the entrepreneurial culture in Slovenia and to increase awareness and use of support services for potential entrepreneurs and established companies. An important component of measures is development of effective, transparent and supportive environment.

The second pillar measures are devoted to strengthening the internal capacity of companies for more intensive, knowledge-based development, especially in the field of technology in order to enable the Slovenian economy, especially SMEs, to cope with rapid technological progress, which is the main element in increasing competitiveness in the global economy.

The third pillar measures are focused on increased investment in R&D and economic infrastructure of the private and public sectors. Measures to support the development and innovation in the economy are aimed at establishing an effective support environment, the creation of adequate infrastructure at the local and the national level, and strengthening the financial resources for R&D and innovation in the Slovenian economy.

The fourth pillar measures are aimed at financial support to SMEs through equity and debt financing. Venture capital is provided through venture capital funds as a form of equity financing in the context of public-private partnerships.

2. Public tender P4

One of the most interesting public tenders was P4. The subject of the public tender P4 was co-financing (direct subsidies) of the purchase of new technological equipment which represents the initial investment. Initial investments are investments in tangible and intangible assets related to the establishment of a new business, expansion of an existing business, expanding the company's activities into new additional products or a fundamental change in the overall production process of an existing company. The purpose of the public tender P4 is to promote the initial investment, which will be reflected in the greater competitiveness of companies as measured by increased growth and productivity, and more competitiveness on the market and higher value added per employee.

The purpose of the public tender P4 and the criteria for achieving the objectives are oriented in the direction of increasing innovation and value added per employee. This means that through the grants the organizer of the public tender P4 wanted to achieve a higher value of financial indicators, to increase the level of innovation and to increase the value added per employee in companies.

INNOVATION

Innovation is mentioned in all EU strategic documents that are the basis for drawing up public tenders. Receiving grants from the EU is in all public tenders related to innovation. All public tenders which were published for the enterprises and other organisations included reaching objectives by integrating innovation. Organisations were requested to provide: a new product developed by the development team within the organization; a new product developed with external research institutions; a new patent; a new internal innovation; new technological processes; and similar.

1. Innovation as Factor of a Competitive Advantage

The vision of the European Research Area is to connect and bring together different research systems into a single area that will encourage creative thinking, strengthen Europe's competitiveness and enhance the quality of life of its citizens (European Commission 2005, 1). The Lisbon strategy and the Barcelona targets advocate for Europe to become along with Slovenia the world's most innovative economy which should provide sufficient jobs and a high quality of life for citizens (Mulej 2006, 17).

In Slovenia, from 1998 to 2008, a slight growth for a percentage of gross domestic expenditure on R&D of GDP is shown in Table 1. However, Slovenia is still well below the EU average.

Table 1 : Gross domestic expenditure on R&D (% of GDP)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
EU-27	1.79	1.83	1.85	1.86	1.87	1.86	1.82	1.82	1.85	1.85	1.90
Euro area (EA-16)	:	1.82	1.84	1.85	1.87	1.86	1.84	1.84	1.86	1.87	1.91
Belgium	1.86	1.94	1.97	2.07	1.94	1.88	1.86	1.83	1.86	1.90	1.92
Bulgaria (1)	0.57	0.57	0.52	0.47	0.49	0.50	0.50	0.49	0.48	0.48	0.49
Czech Republic	1.15	1.14	1.21	1.20	1.20	1.25	1.25	1.41	1.55	1.54	1.47
Denmark (2)	2.04	2.18	2.24	2.39	2.51	2.58	2.48	2.46	2.48	2.55	2.72
Germany	2.27	2.40	2.45	2.46	2.49	2.52	2.49	2.49	2.53	2.53	2.63
Estonia	0.57	0.68	0.60	0.70	0.72	0.77	0.85	0.93	1.14	1.11	1.29
Ireland	1.24	1.18	1.12	1.10	1.10	1.17	1.23	1.25	1.25	1.28	1.43
Greece	:	0.60	:	0.58	:	0.57	0.55	0.59	0.58	0.58	:
Spain	0.87	0.86	0.91	0.91	0.99	1.05	1.06	1.12	1.20	1.27	1.35
France (3)	2.14	2.16	2.15	2.20	2.23	2.17	2.15	2.10	2.10	2.04	2.02
Italy	1.05	1.02	1.05	1.09	1.13	1.11	1.10	1.09	1.13	1.18	1.18
Cyprus	0.22	0.23	0.24	0.25	0.30	0.35	0.37	0.40	0.43	0.44	0.46
Latvia	0.40	0.36	0.44	0.41	0.42	0.38	0.42	0.56	0.70	0.59	0.61
Lithuania	0.54	0.50	0.59	0.67	0.66	0.67	0.75	0.75	0.79	0.81	0.80
Luxembourg	:	:	1.65	:	:	1.65	1.63	1.56	1.65	1.58	1.62
Hungary (4)	0.66	0.67	0.79	0.92	1.00	0.93	0.87	0.94	1.00	0.97	1.00
Malta (4)	:	:	:	:	0.26	0.26	0.53	0.57	0.61	0.58	0.54
Netherlands (1)	1.90	1.96	1.82	1.80	1.72	1.76	1.81	1.79	1.78	1.71	1.63
Austria	1.78	1.90	1.94	2.07	2.14	2.26	2.26	2.45	2.47	2.54	2.67
Poland	0.67	0.69	0.64	0.62	0.56	0.54	0.56	0.57	0.56	0.57	0.61
Portugal	0.65	0.71	0.76	0.80	0.76	0.74	0.77	0.81	1.02	1.21	1.51
Romania	0.49	0.40	0.37	0.39	0.38	0.39	0.39	0.41	0.45	0.52	0.58
<i>Slovenia</i>	<i>1.34</i>	<i>1.37</i>	<i>1.39</i>	<i>1.50</i>	<i>1.47</i>	<i>1.27</i>	<i>1.40</i>	<i>1.44</i>	<i>1.56</i>	<i>1.45</i>	<i>1.66</i>
Slovakia	0.78	0.66	0.65	0.63	0.57	0.57	0.51	0.51	0.49	0.46	0.47
Finland	2.88	3.17	3.35	3.32	3.37	3.44	3.45	3.48	3.48	3.48	3.73
Sweden (5)	:	3.61	:	4.17	:	3.85	3.62	3.60	3.74	3.61	3.75
United Kingdom	1.76	1.82	1.81	1.79	1.79	1.75	1.68	1.73	1.75	1.82	1.88

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Iceland	2.00	2.30	2.67	2.95	2.95	2.82	:	2.77	2.99	2.70	2.65
Norway	:	1.64	:	1.59	1.66	1.71	1.59	1.52	1.52	1.65	1.62
Switzerland	:	:	2.53	:	:	:	2.90	:	:	:	:
Croatia	:	:	:	:	0.96	0.97	1.05	0.87	0.76	0.81	0.90
Turkey	0.37	0.47	0.48	0.54	0.53	0.48	0.52	0.59	0.58	0.72	:
Japan	3.00	3.02	3.04	3.12	3.17	3.20	3.17	3.32	3.40	3.44	:
United States	2.58	2.63	2.69	2.71	2.60	2.60	2.53	2.56	2.59	2.65	2.76

Source: Eurostat 2012

If there are relatively limited R&D expenditures, we cannot, on the other hand, expect to increase innovation and new patents that would place Slovenian enterprises ahead of the competition within the EU and in global trade (Bojnec and Fertő, 2011). In this way, the country is losing competitiveness and more likely deteriorates its international trade competitiveness.

Table 2 presents the Global Competitiveness Index (GCI) for selected European countries in the period 2012-2013. The Slovenian economy is ranked on the 56th place among the world economies, which are included in the comparative analysis of the GCI. .

Rank ▲	Entity ▲	Edition filter	Period	Value	Series
1	Switzerland	2012-2013		5,72	GCI Global Competitiveness I...
3	Finland	2012-2013		5,55	GCI Global Competitiveness I...
4	Sweden	2012-2013		5,53	GCI Global Competitiveness I...
5	Netherlands	2012-2013		5,50	GCI Global Competitiveness I...
6	Germany	2012-2013		5,48	GCI Global Competitiveness I...
7	United States	2012-2013		5,47	GCI Global Competitiveness I...
8	United Kingdom	2012-2013		5,45	GCI Global Competitiveness I...
12	Denmark	2012-2013		5,29	GCI Global Competitiveness I...
14	Canada	2012-2013		5,27	GCI Global Competitiveness I...
15	Norway	2012-2013		5,27	GCI Global Competitiveness I...
16	Austria	2012-2013		5,22	GCI Global Competitiveness I...
17	Belgium	2012-2013		5,21	GCI Global Competitiveness I...
21	France	2012-2013		5,11	GCI Global Competitiveness I...
22	Luxembourg	2012-2013		5,09	GCI Global Competitiveness I...
27	Ireland	2012-2013		4,91	GCI Global Competitiveness I...
30	Iceland	2012-2013		4,74	GCI Global Competitiveness I...
34	Estonia	2012-2013		4,64	GCI Global Competitiveness I...
39	Czech Republic	2012-2013		4,51	GCI Global Competitiveness I...
41	Poland	2012-2013		4,46	GCI Global Competitiveness I...
42	Italy	2012-2013		4,46	GCI Global Competitiveness I...
43	Turkey	2012-2013		4,45	GCI Global Competitiveness I...
45	Lithuania	2012-2013		4,41	GCI Global Competitiveness I...
55	Latvia	2012-2013		4,35	GCI Global Competitiveness I...
56	Slovenia	2012-2013		4,34	GCI Global Competitiveness I...
60	Hungary	2012-2013		4,30	GCI Global Competitiveness I...
62	Bulgaria	2012-2013		4,27	GCI Global Competitiveness I...
71	Slovak Republic	2012-2013		4,14	GCI Global Competitiveness I...
72	Montenegro	2012-2013		4,14	GCI Global Competitiveness I...
73	Ukraine	2012-2013		4,14	GCI Global Competitiveness I...
78	Romania	2012-2013		4,07	GCI Global Competitiveness I...
80	Macedonia, FYR	2012-2013		4,04	GCI Global Competitiveness I...
81	Croatia	2012-2013		4,04	GCI Global Competitiveness I...
88	Bosnia and Herze...	2012-2013		3,93	GCI Global Competitiveness I...
89	Albania	2012-2013		3,91	GCI Global Competitiveness I...

Table 2: Global Competitiveness Index for the years 2012-2013

Source: World Economic Forum 2013.

More specifically, Slovenia is among the 144 countries on 56th place as regards the global competitiveness. In the years 2010-2011 it was on 45th place (Schwab 2012, 15), and in 2011-2012 it was on 57th place; this means that in the recent years Slovenia has been losing global competitiveness or global competitive advantage compared to other countries.

2. Economic Environment and Innovation

Slovenia's Development Strategy (UMAR 2005, 8) ranks among the most important national development objectives for 2006-2013 the increased global competitiveness by means of promoting innovation and entrepreneurship.

In Slovenia, in 2008, of all the enterprises, 50.3% were innovative ones, as shown in Table 3. Most innovative enterprises were in Germany, followed by Belgium and Luxembourg.

Table 3: The Share of Innovative Enterprises in Slovenia and in Other EU and Associated Countries

Country	2008
Germany	79.9
Luxembourg	64.7
Belgium	58.1
Portugal	57.8
Ireland	56.5
Estonia	56.4
Austria	56.2
Cyprus	56.1
Czech Republic	56.0
Sweden	53.7
Italy	53.2
Finland	52.2
Denmark	51.9
EU-27 (2)	51.6
<i>Slovenia</i>	<i>50.3</i>
France	50.2
Norway	49.2
United Kingdom	45.6
Netherlands	44.9
Croatia	44.2
Spain	43.5
Malta	37.4
Slovakia	36.1
Romania	33.3
Bulgaria	30.8
Lithuania	30.3
Hungary	28.9
Poland	27.9
Latvia	24.3

Source: Eurostat 2012

More than half of the Slovenian enterprises are innovative. The state should provide an economic environment where this innovativeness will represent the competitive advantage of companies.

Bérubé and Mohnen (2009, 222-223) determine the performance for the Canadian enterprises that received grants and tax exemptions. The core activity of analysed enterprises was growing plants. They discovered that the most successful enterprises were the ones which received grants and tax exemptions. The lower is the performance of enterprises that have received only tax exemptions. In addition, the enterprises that have received grants and tax exemptions are much more innovative, have more registered global patents and are more successful in marketing their innovations.

Czarnitzki and Bento Lopes (2011) analyzed the effects of the grants in German enterprises. They showed that enterprises that receive grants – both national and directly from the EU or

both – have a higher degree of innovation than if these resources would not have been received. They found out that the grants which the enterprises received directly from the EU, had a greater effect than national resources. Most likely, the reason behind is that the average size of grants that are drawn directly from the EU is higher. They also concluded that enterprises that have received grants from both sources, they have the highest salaries. As far as patents are concerned, the most successful are the enterprises that have received national resources, or a combination of national and direct EU funding. Most of them make a patent application within the next year $t + 1$.

METHODOLOGY AND DATA

We investigate the relationship between financial indicators and innovation of the enterprises that have received grants from the public tender P4. We measure the financial effects and indirect effects. The financial effects are monitored through financial indicators that are accessible through publicly accessible databases such as Bisnode (2012). Through this group of effects, we examine the impact of the grant from the public tender P4 on the financial indicators of the enterprises: turnover, profit, growth in employment and value added per employee. The indirect effects were monitored through the relationship between financial indicators and innovation of the enterprises and employee satisfaction. This group of effects was measured with data from the questionnaire. The Cronbach's alfa was used to measure reliability of the questionnaire. The principal components method was applied to map each variable into a number of new variables and the principal components. This was followed by multiple regression analysis in which the effects between the dependent and independent variables are determined.

Hypotheses

As part of the research, two hypotheses were tested, namely:

1. H1: Grants from the public tender P4 are positively associated with the performance of the enterprise which is measured by financial indicators.
2. H2: Reaching the effects of grants from the public tender P4 is positively associated with innovation in the company.

Data Collection and Data Processing Data to test the set H1 were obtained through the portal Bisnode (2012). Returned completed written questionnaires were first examined, and then a database was created in Excel and then the set H2 was tested in a computer program SPSS17.

The data collection approach used is a structured written questionnaire. The written questionnaire was anonymous. It included several types of questions: the respondents wrote the answer or they circled the answer among given answers or circled the answer that indicated the intensity of agreement or disagreement with the statement based on Likert scale. The used written questionnaire was accompanied by a cover letter, which explained the aims, objectives and content of research as well as explained the selection approach for the survey's conduction. The written questionnaire was sent to the enterprises on the list of the recipients of the grants from the public tender P4 by e-mail. Data collected by the written questionnaire

from the enterprises are the primary data, which includes nominal, ordinal, interval and ratio variables.

Three different types of information about the respondents are obtained:

- Nominal data give information about naming the categories: enterprise size and statistical region. Based on these data, the structural shares of enterprises are calculated;
- Ordinal data were obtained from answers to questions about innovation and employee satisfaction. Perceptions were measured by using the Likert scale where the respondents' answers had been ranked with a possibility to give the mark from 1 (completely disagree) to 5 (completely agree). Unit of measurement according to the Likert scale is the interval and ratio. Ordinal data were used to measure the variables that determine the innovation and employee satisfaction;
- Interval data are represented by the answers to the questions about the age of enterprise and number of employees.

Written Questionnaire

For the validation of the set H2 a written questionnaire was used. The written questionnaire was prepared in the web application 1ka (Faculty of Social Sciences, 2012). The invitation letter and a link to the written questionnaire were sent by e-mail to the enterprises that have received grants from the public tender P4.

The written questionnaire was divided into five sections:

- I. Basic questions about the enterprise, where it was necessary to answer 10 questions, in particular the control variables. In this context, the enterprise gave a written reply and chose a particular value for a particular question.
- II. Innovation, which was divided into the following four dimensions: Innovation culture and climate, Innovation and rewards, Creativity as the basis for innovation, and Innovation performance. 22 statements were given on the five-point Likert scale, with possible answers from 1 – very untrue to 5 – very true.
- III. Employee satisfaction, which was divided into the following five dimensions: Overall satisfaction, Salary, Organizational culture, Characteristics of work, and Loyalty of employees. 20 statements were given on the five-point Likert scale, with possible answers from 1 – very untrue to 5 – very true.
- IV. Reasons for failure to achieve the set goals. 11 statements were given on the five-point Likert scale, with possible answers from 1 – very untrue to 5 – very true.
- V. Information about the respondent. The respondent answered the four questions regarding age, gender, education and position in the company ...

Arguments for the second and third set of questions were taken from previous research such as Fatur et al. (2007); Fatur and Likar (2009); Likar and Fatur (2010).

Sample and Units

Data collection through the written questionnaire was conducted by sending an invitation letter and a link to the written questionnaire by e-mail. The enterprises that have received grants are micro, small and medium-sized enterprises. They deal with different economic activities and are from each of the statistical regions in Slovenia. The public tender P4 was



implemented in 2006, 2007, 2008 and 2009. The calculation of financial indicators was made for each of the enterprises that have received grants from the public tender P4. There were 918 successful applications by the enterprises from the year 2006 to the year 2009, of which some enterprises had received several successful applications; therefore there were 793 enterprises that had received grants from the public tender P4 in the period 2006-2009. In 2012, when the financial analysis to test the set H1 started, 55 companies have been exited from the businesses, either being in bankruptcy or insolvent. For 73 enterprises it was not possible to obtain the correct e-mail addresses. Thus, the written questionnaire was successfully sent to 665 enterprises: 118 enterprises answered on the written questionnaire, representing 17.3% of the enterprises that have received the e-mail. They represented 14.9% of the enterprises, which were successful in the public tender P4. The e-mail was sent to the enterprises for the first time on 2nd February 2012. The e-mail to the enterprises that had not responded to the written questionnaire, were re-sent by the e-mail on 28th February 2012. The surveys with the written questionnaire were completed on 11th March 2012.

RESULTS OF HYPOTHESIS TESTING

The Financial Effects: Testing the Set H1

As part of the testing the set H1, a financial analysis of enterprises that have been successful in applying the public tender P4 was conducted. The financial effects were measured by four financial indicators:

- Total revenues,
- Net profit for the period,
- Average number of employees, and
- Value added per employee.

The public tenders P4 were published in the years 2006-2009. For each of the years under consideration, the average increase in the four financial indicators for the enterprises that have been successful in applying to the public tender P4 in the respective year was calculated. In addition, the average increase in the four financial indicators for the enterprises that responded to the written questionnaire was calculated. The number of positive, negative and neutral individual financial effects for the four indicators was calculated. Total revenues, net profit and the value added per employee for the period 2006-2009 were deflated by the consumer price index, which was obtained from SORS (2012).

Table 4: The results testing the set H1, The average increase / decrease, all companies (nominal)

The average increase / decrease over the years in percentages	Year 2006	Year 2007	Year 2008	Year 2009	Average
Total revenues	14,43%	-4,55%	9,47%	12,03%	7,84%
Net profit for the period	21,86%	-111,38%	2,67%	36,61%	-12,56%
Average number of employees	16,06%	6,54%	27,82%	5,27%	13,92%
Value added per employee	7,55%	45,62%	3,11%	1,89%	14,54%

The Principal Component Analysis

The principal component analysis of variables for innovation suggested the following four principal components:

- The principal component 1: Incentives for innovation;
- The principal component 2: Procedures and standards for innovation;
- The principal component 3: Innovation as a prerequisite;
- The principal component 4: Ways to innovate.

The criteria for determining the number of principal components were: diagram of Scree plot (where the line breaks), the eigenvalues greater than one and the proportion of explained variance at least 50% and substantive reasonableness.

Testing the Set H2

The purpose of testing the set H2 is to determine the impact of innovation on enterprise's performance. The analysis is based on primary data obtained from the written questionnaire. The set H2 argues that the effects of grants from the public tender P4 is positively associated with innovation in the enterprise, which determines economic efficiency positively. Therefore, in the regression framework, the dependent variable is economic efficiency measured by value added per employee. The independent variables are the four principal components of innovation in enterprises: the incentives for innovation, procedures and standards for innovation, innovation as the prerequisite, and ways to innovate. The tested multiple regression equation is:

$$DVZ = a + b_1 \cdot INOP + b_2 \cdot INOPO + b_3 \cdot INOST + b_4 \cdot INOSP \text{ where:}$$

DVZ = value added per employee.

a = regression constant,

b_1, b_2, b_3 and b_4 = regression coefficients,

INOP = Innovation in the way to innovate,

INOPO = Innovation as a prerequisite,

INOST = Innovation as the procedures and standards for innovation, and

INOSP = Innovation as incentives for innovation.

The estimated regression model was shown to be insignificant at 10% level ($F = 1.82$, Sig. 0.128). The corrected coefficient of determination is 0.028, which means that only 2.8% of the variance in the dependent variable can be explained by the independent variables.

The standardized regression coefficient for the incentives to innovate is -0.056 and is insignificant (Sig. 0.538). The standardized regression coefficient for the procedures and standards for innovation is 0.012 and is insignificant (Sig. 0.897). The standardized regression coefficient for the Innovation as a prerequisite is 0.176 and is insignificant or significant at 6% level (Sig. 0.056). The standardized regression coefficient for the Ways to innovate is 0.163 and is insignificant (Sig. 0.077).

These results would suggest that the innovations increase the value added per employee or that innovation has a positive impact on the value added per employee, which is consistent with the set H2. However, some of these coefficients are insignificant or are on the border of statistical significance at 6-8% of significance level.

The calculated bivariate regression analysis, where is checked whether the principal component Innovation as a prerequisite actually has a positive impact on value added per employee, is tested by the following bivariate regression equation: $DVZ = a + b_1 \cdot INOPO$, where:

DVZ = value added per employee,
a = regression constant,
 b_1 = regression parameter, and
INOPO = Innovation - innovation as a prerequisite,

The corrected coefficient of determination is 10.9%. The standardized regression coefficient for the Innovation as a prerequisite is 0.347 and is statistically significant (Sig. 0.002).

On the basis of these results can be confirmed that the principal component of innovation as a prerequisite has a positive impact on value added per employee. The other three principal components do not affect the value added per employee significantly.

FINDINGS AND IMPLICATIONS

In the analysis of financial indicators on testing the set H1 confirmed that the enterprises achieved positive financial impacts from grants from the public tender P4. The enterprises that have been successful in the public tender P4 on the basis of the three analysed financial indicators are more successful than the average of enterprises operating in eligible activities. Thus, the set H1 can be validated as confirmed. This imply that the successful companies are more likely to have capacity to efficiently apply and compete in the public tender P4, which is further increasing their competitive abilities and the level of economic efficiency.

To test the set H2, a multiple regression analysis has been conducted using previously estimated principal components as independent variables. In the set H2 is determined the impact of innovation on enterprise's performance. The value added per employee is significantly positively associated with the principal component Innovation as a prerequisite, but not with other three components. This means that the set H2 2 can only be partially validated.

CONCLUSION

The novelty and contribution of the paper is on the assessment of the impact of grants of the public tender P4 to the economic-financial efficiency and enterprise innovation. This research is the first in Slovenia, which measured the impact of a certain tender (i.e., the public tender P4) on the achievement of the aims and objectives identified in the public tender. In addition to the importance for research, it has also important policy implications directed towards the implementation of the public support programs and EU directives in order to measure the overall impact of the grants and to explore the specific aims and the effects achieved.

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