Volume 3 (2015) ISSN 2300-5947
No. 4

FORUM SCIENTIAE OECONOMIA

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IS HIGHER COMPETITIVENESS POSSIBLE BY SUBSIDIZING ENTREPRENEURS? THE CASE OF SLOVAKIA

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Abstract

This article deals with the competitiveness of allocating resources in a free market economy that is in contrast to bureaucratic allocation in the form of subsidies to entrepreneurs. We reviewed these two processes and made an evaluation of the results. By applying Ludwig von Mises' theorem of economic calculation, it was demonstrated that governments rely on the subsidized entrepreneur's market and believe it to be more competitive than classical market entities that are more successful in resources allocation based on free enterprise.

Key words: allocation of resources, competitiveness, subsidies.

Introduction and literature review

"Socialism attempts to replace billions of individual decisions made by sovereign consumers in the market with "rational economic planning" by the few vested with the power to determine the who, what, how, and when of production and consumption" (Mises 2012: viii). Though most socialist experiments have been relegated to history, the current social challenge is the new experimentation with partial intervention in economic processes. One form of such interventions is subsidies to entrepreneurs and thus governments make "rational economic planning" of who, what, how and when a good is produced. Their aim is to stimulate selected entities to create jobs, enhance competitiveness, support innovation, etc. through the allocation of public funds. This redistribution relies on resources from agents compet-

ing in a free market (by taxation) that is reassigned by non-market bureaucratic decision. Hazzlit (2008) argues that government is actually taxing successful entrepreneurs to subsidy unsuccessful entrepreneurs. McTuigue (2012), however, argues that most of subsidies are compensation payments for things in the economy that need repair. Horeháj (2008: 53) claims that interventions might disrupt the dynamics of the economic processes. Subsidized entrepreneurs have the privilege of guaranteed allocations and as such, are not forced to innovate.

Mises (2012: 20-21) argues that in a free market economy, a computation of value is made by each independent agent in society. Everybody participates in its emergence in two ways: as a consumer and as a producer. As a consumer, he establishes a scale of valuation for goods ready for consumption. As a producer, he puts a higher importance on goods that produces the greatest return. In this way, all goods of a higher order receive a position in the scale of value that is in accordance with the immediate social conditions of production and of social needs. This first part of Mises's theorem of economic calculation can be applied to government intervention. The government may know what goods or production are most urgently needed and thus allocate resources in the form of subsidies but cannot make economic calculations of efficiencies. Therefore, they rely on selected administrative entities and entrepreneurs as well as their market research. As such, the risk of allocation failure is high, as the ratio of subsidized entities compared to all entities are calculated in percentages.

The word competition was derived from Latin "cum petitio", which means concurrence of multiple requests for the same thing to one owner (Soto 2013). Several authors agree that competition is a basic element of the free market (Horehájová, Marasová 2009: 28; Henderson, Poole 1991: 298). According to Horeháj (2008: 37), competition secures allocation of resources into its most effective use. He sees competition as a continuous discovery process of the variety of needs and preferences of individual market participants and finding the most effective options to meet them. The process of competition in the free market was also defined by Adam Smith (1776) as a precondition for efficient allocation of resources. Hayek (2001: 47) looks at competition as mean of coordinating human effort (principle of societal organization) and as the only method by which we can mutually adapt our activities without interventions of any authority. Boettke (2011: 81) defines competitiveness as the ability of entrepreneurs to find such combinations of scarce resources, which in comparison to competitors, present their efficient use.

The neoclassical economic school as critics of free markets, advocates models of perfect and imperfect competition (Mankiw 2000: 341). They

blame the free market and competition for inefficient allocation of resources and emphasize the need for governmental interventions. This begs the question as to which type of allocation of resources is most effective, i.e. which model works in a globally competitive economy? Is intervention enhancing competitiveness or decreases it? Our goal is to answer these questions and show the consequences of both approaches in microeconomics.

1. Aims, material and methodology

The aim of this paper is to demonstrate the validity of Mises's theorem of economic calculation by applying it to the European Union subsidies program in Slovakia. Our analysis should provide the answer to the research question that we used in this paper's title – "Is higher competitiveness possible by subsidizing entrepreneurs?" As such, we compared the competition in the allocation of resources in the free market economy to the subsidized economy. For material information, we use data from the 2007-2013 Slovak Operational program "Competitiveness and economic growth" (OP C&EG). This program was targeted mainly for enhancing competitiveness of entrepreneurs in the Nomenclature of Territorial Units for Statistics regions (NUTS 3) in order to facilitate the convergence of Slovakia and its regions towards the EU levels. The research sample contains 1,679 subsidy contracts that were assigned to 1,309 entrepreneurial entities. Secondly, we used general data from the Slovak statistics bureau to determine the historical elements of competitiveness and allocation of resources in these regions and its development. We mainly applied the Austrian economic school methods – methodological individualism, apriorism and deductive logic, supplemented by descriptive statistics, comparative and classification analysis.

2. Results and discussion

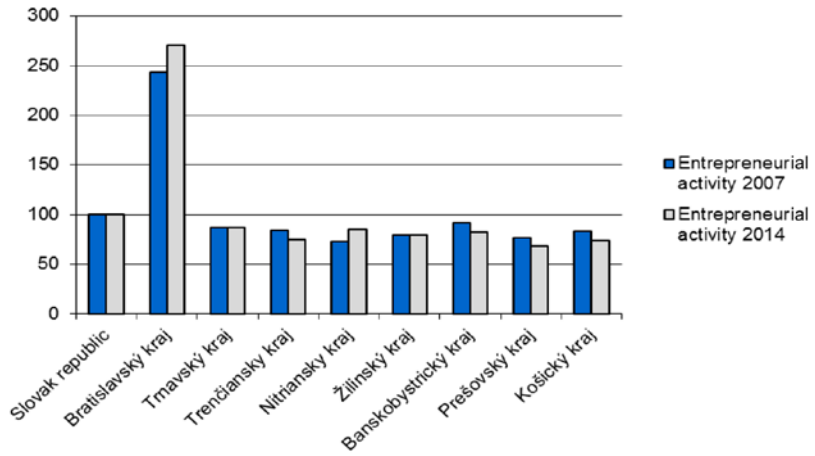
2.1. *Allocation of resources in a free market economy*

Although the Slovak economy is not a pure free market economy, it should be assume that the level of government interventions in consumption, production, labor and capital is less than half of the GDP. This enables us to claim that the majority of resources allocation (factors of production and consumption) is driven by markets. In this way, the resources finding the most productive uses can be identified by their geographical location. We are thus able to track the most competitive environment (in our case the Slovak regions on NUTS 3 level) that provides a competitive advantage or some might say Ricardo's comparative advantage. This identification of the competitive environment does not say anything about individual microeconomic competitiveness of entrepreneurs, which can only be deter-

mined by comparison of various factors such as market shares, productivity, profitability, sales growth rate, etc. With analysis of the "invisible hand" of allocation of free markets and competition, we are able to compare it with allocation results of central planners' or the "visible hand of government".

We examined four aggregate indicators of the NUTS 3 level which represent Slovak self governing regions' competitiveness for allocation of resources. Firstly, there are *entrepreneurial activities* that we measured with a number of entrepreneurial entities with legal status per capita (population living in a particular region). We compared average entrepreneurial activity (Slovak republic = 100) and regional activity in two time-periods (2007, 2014). As can be seen in Figure 1, the most active region is "Bratislavský kraj" with 2.7 times more entities than the Slovak average in 2014, followed by „Trnavský kraj" (0.87), "Nitriansky kraj" (0.85) and "Banskobystrický kraj" (0.83). When comparing trends, the winner is again "Bratislavský kraj" in the 2014 to 2007 comparison with a gain of 0.28 points followed by "Nitriansky kraj" (0.12). Two regions – "Trnavský and Žilinský kraj" remained stable and all other regions lost compared to the average.

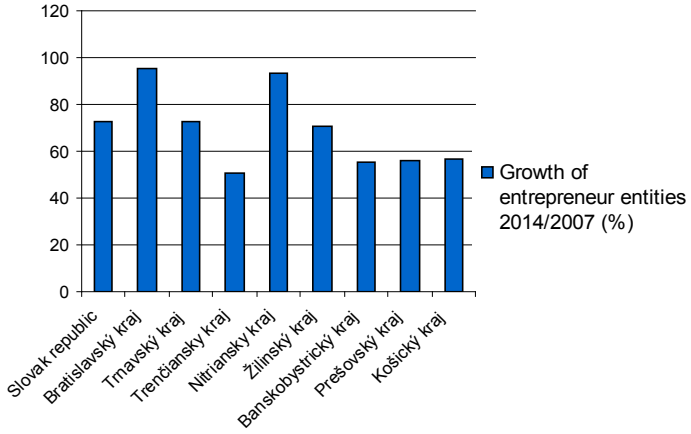
Figure 1. Entrepreneurial activity comparison of Slovak republic NUTS 3 regions



Source: own calculations, 2015. Data from Slovak statistics bureau.

The second indicator examines the *growth of entrepreneurial entities* which were calculated as a percentage change in the number of entities between years 2007 and 2014 (Figure 2). All regions grew significantly (from 51 to 95 percent), but again, the winners "Bratislavský kraj" and "Nitriansky kraj" had almost doubled the number of entities and four regions were lagging behind with slightly over 50 percent growth (Trenčiansky, Banskobystrický, Prešovský and Košický kraj).

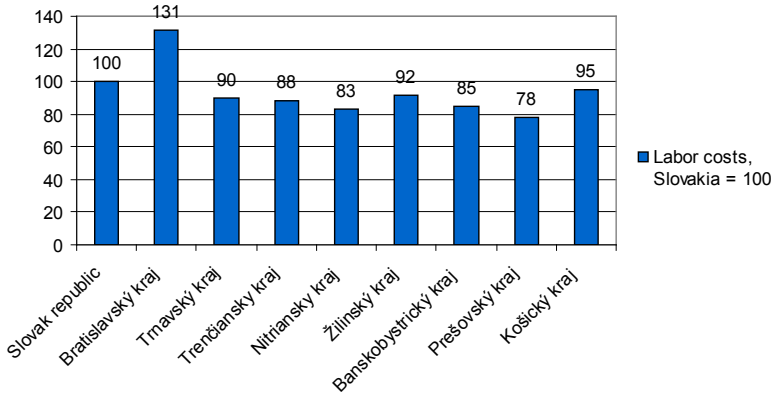
Figure 2. Growth of entrepreneur entities in Slovak republic NUTS 3 regions



Source: own calculations, 2015. Data from Slovak statistics bureau.

The Third indicator is the *monthly labor costs* (Figure 3). Higher salaries in free markets usually attract labor (the principle of allocation reources into their most productive uses). In reverse, higher salaries are possible only due to higher productivity, which is one of the key factors of competetitiveness. When we analyze data from the year 2013 in Slovakia, we see that Bratislavský kraj reached 131 percent of average labor costs, followed by Košický, Žilinský and Trnavský kraj.

Figure 3. Labor costs in Slovak republic and NUTS 3 regions in 2013

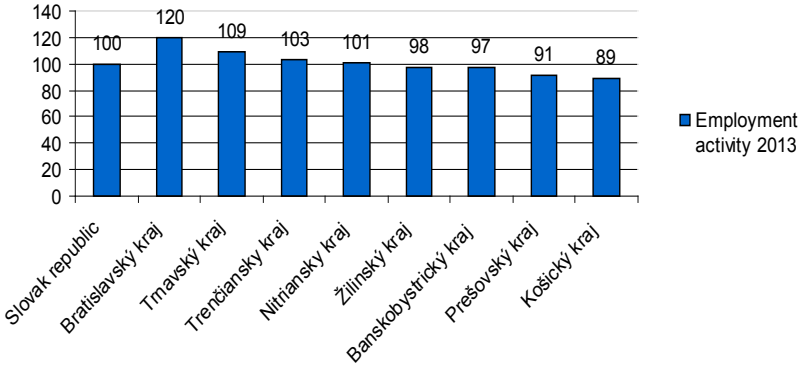


Source: based on data from Slovak statistics bureau, 2015.

Similarly, entrepreneurial activities are measured in a fourth indicator – *employment activity.* It is calculated as the number of employee per capita (population living in particular regions). We compared average employment

activity (Slovak republic = 100) and regional activity in the time-period of 2013. It can be seen in Figure 4 an interesting finding of employment activity regularly decreasing with geographical latitude, that is to say, the highest activity are in western regions, moderate in central regions and the lowest in eastern regions.

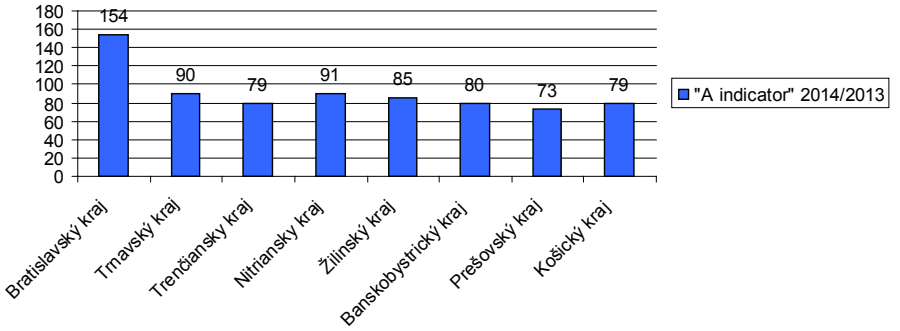
Figure 4. Employment activity comparison of Slovak republic NUTS 3 regions



Source: based on data from Slovak statistics bureau, 2015.

As a summary of the above measurements, a simple allocation indicator was constructed („indicator A") that is an average value of all above partial indicators. "Indicator A" gives us space for a more complex comparison of all Slovak regions. It can be seen in Figure 5, Bratislavský kraj is a dominant leader, followed by two regions with moderate allocation (Nitriansky and Trnavský kraj). The least competitive allocators of resources are Prešovský, Košický and Trenčiansky kraj.

Figure 5. Competitiveness indicator of Slovak republic NUTS 3 regions



Source: based on data from Slovak statistics bureau, 2015.

2.2. *Allocation of resources in subsidy economy*

Slovakia joined the European Union in 2004 and since that time, the country is a part of the common EU policy which uses different sets of tools to achieve its goals. Policies are described in the main strategic document – National Strategic Reference Framework (our analysis focuses on MDVRR SR 2007). The strategic goal for this seven-year planning period was "significantly increased by 2013, in employment, competitiveness and performance of regions and of the Slovak economy while respecting sustainable development (MH SR 2007: 6)".

The programming period of 2007-2013 brought 11 operational programs but our analysis focuses only on the program „*Competitiveness and economic growth"* (MH SR 2007) that partially subsidizes private entrepreneurs that do not provide public goods or services and thus have direct effect on the competition and the microeconomic environment. The global objective of the operational program was "to ensure sustainable economic growth and employment". The managing authority for OP C&EG is the Ministry of Economics of the Slovak Republic.

Activities of the program are concentrated on the support of innovative processes, transfer of new and environmental technologies and knowledge-intensive production processes and development of shared services for businesses. In the energy sector, support included activities that supposedly contribute to the increase of energy efficiency, reduction of energy consumption by the economy and intensification of the use of renewable energy sources in industry and related services. In the area of tourism, investments were focused on the increase of variety and quality of tourism and spa services, with particular emphasis placed on comprehensive service packages with all-seasonal use (exploitation of mineral and geo-thermal springs for the development of summer and winter tourism, with a wide range of services provided to visitors, etc. (MDVRR SR 2007: 111). OP C&EG was structured in following priority axes:

Priority axis No. 1 – Innovations and Growth of Competitiveness
Priority axis No. 2 – Energy Sector
Priority axis No. 3 – Tourism
Priority axis No. 4 – Technical Assistance

Due to eligibility of recipients in OP C&EG from both public and private sector, we selected data for our analysis that only represents private recipients. As shown in Table 1, by 31.3.2015, there were 1,309 entrepreneurs contracting 1,679 projects. We calculated that 38% of total contracts were from *repeated contractors* (entities that received subsidies 2, 3, 4, or even 5 times during implementation). This suggests either dependence on public sources (lack of competitiveness in free markets), or rent seeking (specialization on subsidies) or even some form of corruption.

Table 1. Repeated contractors and distribution of subsidies contracts

Repeated contractors (number of repeated contracts per entity)	Entrepreneur entities	Total contracts	% as of total contracts	Cumulative % as of total contracts
5	6	30	2%	2%
4	16	64	4%	6%
3	56	168	10%	16%
2	186	372	22%	38%
1	1,045	1,045	62%	100%
Total	**1 309**	**1 679**	**100%**	x

Source: based on MDVRR SR 2007. List of recipients 31.03.2015.

Another interesting finding is seen in Table 2. Repeat contractors were more successful not only in the number of projects, but also in *financial allocation per entity*. These entrepreneurs gained over two times more than single recipients. The reasons for this allocation might be similar to findings seen in Table 1.

Table 2. Allocation split between repeated and single recipients

Type of contractor	Entities number	Total allocation (in eur)	Allocation per entity (in eur)
Repeated	264	341 250 399	1 292 615
Single	1 045	629 612 455	602 500
Total	**1 309**	**970 862 854**	x

Source: based on MDVRR SR 2007. List of recipients 31.03.2015.

In our next analysis (Table 3), we have ordered the data set according to the amount of allocation per contract. Observations were ordered in descending order, so the first quartile (Q_1) represented contracts with the highest financial allocation. We reviewed two data sets – first was all contracts in priority axis 1 and second was all contracts to all entrepreneurs in OP C&EG. Both allocations showed extreme *distribution inequality*. Entities with contracts from the first quartile (Q_1) received 75% of funds in priority axis 1 and entities with contracts from the fourth quartile (Q_4) received only 3% of total allocation. An explanation for such distribution can be found in "monopolistic" theories, which are far away from the "perfect competition" that policy makers are taking effort to reach.

Table 3. Allocation per quartiles (contracts with entrepreneurs in OP C&EG)

Quartile (entities /recipients)	Q_1	Q_2	Q_3	Q_4
Allocation in Priority axis 1 (1154 contracts, in euros)	390 141 866	69 225 488	43 828 665	17 889 323
% as of total allocation	75%	13%	8%	3%

Allocation to all entrepreneurs 1679 contracts (in euros)	721 998 222	147 136 037	71 458 055	30 270 540
% as of total allocation	74%	15%	7%	3%

Source: based on MDVRR SR 2007. List of recipients 31.03.2015.

In Table 4, we show the allocation of complete OP C&EG (with all recipients - government, municipalities and entrepreneurs) per regions. *Subsidies per capita* (population living in NUTS 3 region) illustrate big *inequalities* suggesting something other than the support of competitive entities. The lowest subsidy per capita (69€) is received by Bratislavský kraj, as expected, as it was excluded from most of the program (except technical assistance and municipalities). But regions like Košický, Banskobystrický and Trenčiansky kraj, where our „A index" (allocation of resources in free market) showed the same level of „competitiveness", regarding subsidies per capita, had quite differentiated values, ranging from 157€ to 335€. These differences cannot be explained neither by intention of EU cohesion policy (subsidizing poorer regions) nor by elements of free market competition. Subsequently, *subsidies per entrepreneur* were calculated again as allocation by region. There was no surprise in Bratislavský kraj (534€) for the same reasons as the abovementioned subsidies per capita. Five other regions had similar allocation averages (4 008€ to 5 686€ per entrepreneur). Surprisingly these regions were Prešovský and Banskobystrický kraj, allocating double the amount of subsidies per entrepreneur than the average (9 302€ and 8 490€).

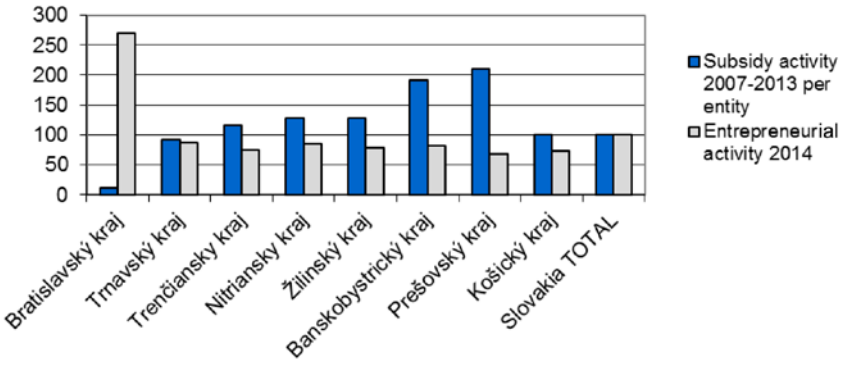
Table 4. OP C&EG allocation split between NUTS 3 regions (all entities – government, municipalities, entrepreneurs)

NUTS 3	OP C&EG allocation spending (in euro)	OP C&EG allocation contracts (in euro)	Subsidies per capita (in euro)	Subsidies per entrepreneur (in euro)
Bratislavský kraj	24 986 627	42 808 320	69	534
Trnavský kraj	38 093 591	94 525 074	170	4 080
Trenčiansky kraj	47 801 711	108 369 587	183	5 137
Nitriansky kraj	86 623 269	158 536 476	231	5 686
Žilinský kraj	56 152 744	148 068 349	214	5 660
Banskobystrický kraj	114 855 406	220 173 837	335	8 490
Prešovský kraj	95 839 931	248 111 852	303	9 302
Košický kraj	55 949 690	124 709 717	157	4 456
Slovakia TOTAL	**520 302 969**	**1 145 303 211**	**211**	**4 421**

Source: based on MDVRR SR 2007. List of recipients 31.03.2015.

Our last Figure (6) is a *comparison of subsidy activity* in OP C&EG (subsidies per entrepreneur, where average in Slovak republic = 100) and *entrepreneurial activity* in 2014. We can clearly see that least entrepreneurial regions were extremely „competitive" at allocating subsidies.

Figure 6. Subsidy vs. entrepreneurial activity



Source: based on data from Slovak statistics bureau and List of recipients 31.03.2015, NSRR 2007-2013.

Conclusions

Our research was based on the comparison of the competition in allocation of resources in the free market economy and the subsidized economy. Under prevailing forces of free market, we found a spontaneous allocation of resources. For indicators, we used the allocation of entrepreneurial entities and the allocation of employment. Our simple allocation indicator („A indicator") showed that the most competitive NUTS 3 regions in Slovakia are Bratislavský, Nitriansky and Trnavský kraj and the least competitive are Prešovský, Banskobystrický and Trenčiansky kraj.

On the contrary, allocation in the subsidized economy shows that the most dominant "competitors" for gaining EU funding are least entrepreneurially competitive Prešovský and Banskobystrický kraj. This contradiction may suggest that EU cohesion policy has set up unsound means to reach higher competitiveness of the whole economy by investing immense resources into probably the least competitive entrepreneurial entities. It might be explained by myth of policy makers, that increasing productivity can be reached by redistribution of scarce resources from highly competitive entrepreneurs to probably uncompetitive or even submarginal ones.

The results also showed that repeated contractors received double the allocation of one-time recipients and 38% of the contracts were given repeatedly. Another finding shows distribution inequality, as 75% of allocations were distributed by 25% of the contracts. These facts indicate monopolistic trends in the subsidies „market". Finally, allocations calculated per capita or per entrepreneurial entity confirmed huge allocation inequality. The entrepreneurs' main motivation in competing for subsidies might be either their

dependence on public sources (lack of competitiveness in free markets) or rent seeking (specialization on subsidies).

We have demonstrated the validity of Mises's theorem of economic calculation problem by applying it to European Union subsidies program. Differences in the allocation of resources in the free market economy were compared to the subsidized economy. It can be argued that the Slovak government and the EU rely on subsidized entities in the belief that they are more competitive than free-market entities in the successful allocation of resources for consumers. This policy brings high risks, as low competitiveness of entrepreneurial entities in the free markets can be increased by subsidies only temporary (by the end of subsidy program) and not permanently. As such, we have a clear answer to our research question: Is higher competitiveness possible by subsidizing entrepreneurs? At least in Slovakia, the answer is an emphatic no.

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