# Nataša URBANČÍKOVÁ

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### Abstract

By area, the Slovak Republic is considered to be a small European country. There are dramatic differences between Slovak cities and regions both in economic and social terms. Public investment is supposed to bring a positive impact on the dynamics of economic development, economy growth and its overall performance; nonetheless, it is town and regional parliaments that select the intervention areas, and, unlike in private sectors, the proportionality of investment activities and their portfolio suitability is not assessed with respect to their benefits. Another point is the perception of these investment activities by the urban and regional populations, which is truly unique research. Significant differences have been recorded, related to both decision-making in regions at similar levels of development and to public opinion.

Keywords: Cities and regions, investment, capital expenditure.

# 1. MAKING INVESTMENT DECISIONS IN CITIES AND REGIONS

The article analyses the efficiency of investment activities in cities and regions according to various budget sections where long-term investments are directed and according to their perception by the population. The subject of investment explores the relationship between the current and future consumption of economic goods. Irwing Fisher defined (Fisher, 1930) an interest as the result of interaction between willingness and opportunity. This willingness plays a role in the interest determination and it means the surrendering of the current consumption for the benefit of future generations, while making investment decisions happens in very uncertain conditions. If an economy reduces the production of consumer goods for the sake of capital goods, it can grow faster and acquire a greater amount of both consumer and capital goods in the future. Both the general neoclassical growth model and the theory of endogenous growth place an emphasis on the role of public investments in the economic growth (Romer, 1986; Lucas, 1988; Rebelo, 991; Barro and Sala-i-Martin, 1999). Besides creating economic stimuli through the development of infrastructure, support to

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education, healthcare, research and development, they also have a positive side effect on private investments. However, the relationship of public investments to private investments and economic growth brings some doubtful empirical results (Devarajan et al., 1996). The volume and effectiveness of investment utilisation affects the dynamics of economic development, economic growth and overall economic performance. In making investment decisions in public administration several investment variants are considered based on their ex-ante evaluation with respect to future effects. In positive cases, their relationship to strategic plans is additionally taken into consideration based on participation of the public, i.e. public interests are considered as well. Moreover, the effectiveness of investment may be analysed by means of so-called Data Envelopment Analysis (Dobrea, Ciocoiu, Dinu, 2013).

The structural changes of the economic systems in Central and Eastern Europe (CEE) since the early 90s have resulted in large investment requirements for the reconstruction of the infrastructures such as telecommunications, roads, railways, airports, and water management facilities. A decision to use public-private partnership financing was made in all the CEE countries (Suhányi, 2009).

Generally accepted economic rules may also be applied to territorial units such as cities and regions. In Slovakia, as in other CEE countries, a process of fiscal decentralization took place, thereby giving regional governments the right of investment decision-making to improve the quality of life in, and infrastructure, environment and increase the competitiveness and development of, their regions. On the other hand, this decentralisation led to greater regional disparities in the CEE countries (Tvrdoň, Skokan, 2011).

It is an individual decision of each self-governing unit how to divide expenditure to current and capital ones. If one decides to increase its capital expenditure, the intention is to boost its regional economy. In the public sector, investments as an accounting and financial category present larger monetary expenses which are to bring economic benefits in the long run (Suhányiová, Horváthová, 2013). A range of specific priorities is relatively wide, and national or regional authorities have to select an appropriate portfolio of priorities, and the extent to which they allocate funds for them is based on an exante evaluation and public priorities (Hudec, 2008). The private sector measures the efficiency of the realized investments by comparing the business profit to the costs incurred. In order to measure public benefit the public sector employs certain intermediary indicators (e.g. the number of rendered decisions, length of maintained roads etc.). The determination of public good as a counterbalance to profit is always problematic – each subject perceives the effectiveness of public administration in relation to their subjective needs (Klus in Králik, 2010).

The fundamental task of self-government is to provide the overall territorial development of a particular city, town or region, and to care about its population's needs. Once the residents of the city or region are satisfied with the development, they make a decision in the next election in a way similar to customers (Vykydal, Halfarová and Nenadál, 2013) showing their willingness to purchase (vote) again. This has driven the intention of the authors of this article to deal with the evaluation of investment activities in cities and regions from the point of view of their citizens.

Regional governments realise decision-making their strategic objectives given in their regional policy documents via investment (Suhányi, 2012). Hence, an investment activity of the region (as well as of the company) differs from a usual operating activity in several aspects (Valach, 2006): its long-term horizon, a greater risk of deviating from the original estimate of the expected costs or incomes, and its difficult coordination due to different economic interests of the actors (e.g. investors, designers, contractors or subcontractors, etc.). The process of investment decision-making consists of several stages, and the associated long-term funding of investments is usually named 'capital planning' (Clark, Pritchard, Hindelang, 1989). Some phases of capital planning are overlapping and there must be a feedback between them, therefore an integrated management system would be appropriate to control it (Zgodavová, Bober, 2012).

### 2. METHODOLOGY AND METHODS

The article pays attention to the economic classification of costs with emphasis placed on capital expenditure, which is defined as investments exceeding a period of one fiscal year that serve to finance long-term investment needs and which should be directed to the economic or social infrastructure, which in turn, in Slovakia, is represented by the budget sections of the regional self-governing authorities, transportation, healthcare, culture, education, and social care.

The basic source of regional data is the data presented by the Statistical Office of the Slovak Republic and balance sheet accounts of individual regions. The authors used their own questionnaire survey to follow the perception of investment activities by the populations of cities and regions. The first part of the article analyses regional performance. Regions comparable by their performance expressed by key indicators, such as the regional GDP, unemployment rate and average wages, were included in the analysis. Another part of the article analyses specific investment activities of self-governing regions from 2004 to 2012, based on their capital spending in terms of time and the abovementioned sections. The primary data were obtained in March 2014 from three regions in parallel, using a quota selection from

email boxes so that only the specimen of the population following the development and information concerning their region and strategic direction was addressed. Three hypotheses were suggested:

- Hypothesis 1: It is assumed that there is a correlation between a particular region and the level of its satisfaction with the management of the regional economy.
- Hypothesis 2: It is assumed that there is a correlation between the variables of the current and desired state of directing long-term investments.
- Hypothesis 3: It is assumed there are differences in how the populations of different regions perceive long-term investments in particular budget sections.

### 3. REGIONAL PERFORMANCE ANALYSES

The Slovak Republic is comprised of eight self-governing regions. Within the territory of the Slovak Republic, western-eastern and northern-southern development gradients become evident (cf. the National Strategy of Regional Development of the Slovak Republic, 2010, pp. 8-9). Regional disparities exist mainly in the direction of the western-eastern trajectory. The cities (Žilina, Trenčín, Nitra) and regions (The Žilina, Trenčín and Nitra Region) which were selected for the research are neighbouring regions and economically perform very similarly, which is the best prerequisite for comparative analysis of investment priorities.



FIGURE 1 - ANALYSED CITIES AND REGIONS

The Nitra Self-Governing Region (NSGR) consists of 7 districts, 15 towns and 354 municipalities. It has almost 700,000 inhabitants and the population density is 109 people per square kilometre.

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The Trenčín Self-Governing Region (TSGR) consists of 9 districts, 18 towns and 276 municipalities. It has a population of around 600,000 and the population density is 133 people per square kilometre.

The Žilina Self-Governing Region (ŽSGR) includes 11 districts, 18 towns and 315 municipalities. The total number of inhabitants is 700,000 and the population density is 102 people per square kilometre.

### Some selected macroeconomic indicators

Macroeconomic indicators speak about aggregated economic phenomena. The macroeconomic aggregates of the gross domestic product (GDP) per capita, unemployment rate and the average monthly income were used to describe the economic development of the aforementioned regions. Until 2008 there was a growing tendency in the GDP per capita in those regions, which slightly exceeded the Slovak average. A slight decrease came in 2009 as the result of the global economic crisis. The greatest values were achieved in all said regions in 2011 (11,435 € in the NSGR, 11,262 € in the TSGR, and 11,040 € in the ŽSGR). The highest average growth rate in the GDP was recorded in the ŽSGR (8.06%), followed by the NSGR (7.4%), and finally the TSGR (6.47%). Their unemployment rates were at their highest points in the first years of the new millennium, whereas the average values for the whole period are as follows: the NSGR (13.96%), ŽSGR (12.71%), and the TSGR (7.55%). The regions' average monthly income rose every year, while the average amounts for the entire period were as follows: the ŽSGR (595.79€), TSGR (574.89€), and the NSGR (563.06€).





A multi-criterion method for the observed indicators from 2004 to 2011 was employed to evaluate the forenamed regions. The best indicator value was given a score of 100 points, and this value, or benchmark, was then applied as a basis for the percentage comparison of the other regions. The result is a composite index of regional performance based on the average number of indicator points that captures the relative balance in the performance of all regions. These are considered to be comparable by area, population and economic performance.

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FIGURE 5 - DEVELOPMENT OF AVERAGE MONTHLY INCOME EXPRESSED IN EUR

|                           | Nitra Region | Trenčín Region | Žilina Region |
|---------------------------|--------------|----------------|---------------|
| GDP in PPP                | 100          | 89.29          | 97.48         |
| GDP per capita            | 95.25        | 100            | 94.15         |
| GDP growth rate           | 91.81        | 80.27          | 100           |
| Unemployment rate         | 86.04        | 92.45          | 87.29         |
| Average monthly<br>income | 94.051       | 96.49          | 100           |
| Average total             | 93.52        | 91.70          | 95.78         |

(Source: The authors)

# 4. ANALYSIS OF REGIONAL INVESTMENT ACTIVITIES

Capital expenditure is regarded as equivalent to investments. The article focuses on some selected sections to which a particular region is directing its long-term finances: the self-governing regional office, transportation, healthcare, culture, education and social care. The information was collected from the annual balance sheets of the specific regions during the period of 2004 to 2012.

# 4.1. Comparison of investment activities in self-governing regions

The chart below, showing the regional investments in the individual sections, presents great diversification. The first place in investment expressed in the volume of capital expenditure belongs to the  $\check{Z}SGR$  (158,749,764.35  $\in$ ), followed by the TSGR (123,157,796.48  $\in$ ), and lastly the NSGR (104,711,549.70  $\in$ ). In total, the regions invested 386,619,110.53  $\in$ , most of which went to the section of transportation.





FIGURE 7 - TOTAL CAPITAL SPENDING BY YEARS

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The regional capital expenditure varied greatly and had a fluctuating character. The average capital expenditure was the greatest in the  $\check{Z}SGR$  (17,638,862.71€), which was 19.5% higher than in the TSGR (14,192,177.21 €), and 34% higher than in the NSGR (11,634,616.63 €).

In the comparison of the regional investment activities according to the multi-criterion method 100 points was assigned to the highest indicator score as a reference value for percentage comparison:

|  | NSGR  | TSGR  | ŽSGR  |
|--|-------|-------|-------|
| Regional self-governing office operation | 42.47 | 100   | 44.08 |
| Transportation                           | 69.77 | 100   | 78    |
| Healthcare                               | 18.35 | 39.29 | 100   |
| Culture                                  | 48.19 | 24.76 | 100   |
| Education                                | 78.98 | 42.41 | 100   |
| Social care                              | 63.93 | 64.74 | 100   |
| Average total                            | 53.62 | 61.87 | 87.01 |

TABLE 2 - LONG-TERM REGIONAL INVESTMENT ACTIVITIES IN VIEW OF THE SCORING SYSTEM

(Source: The authors)

The method points to the Žilina Self-Governing Region as being the most active region in terms of investments, with a score of 87.01 points, devoting its investments to the four sections of healthcare, culture, education, and social care. The score for the Trenčín Self-Governing Region, with its investment priorities in transportation, social care, education, healthcare, and culture, was 61.87 points. The last-placed was the Nitra Self-Governing Region, with a score of 53.62 points, having given priority to education, transportation, and social care.



FIGURE 8 - LONG-TERM INVESTMENT ACTIVITIES OF THE INDIVIDUAL SELF-GOVERNING REGIONS

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Figure 8 shows the dominance of the ŽSGR in the volume of invested funds into all its budget sections with the exception of the office itself, which is evidence of its lean public management.

# 4.2 Empirical section –Perception of investment activities by the regional population

Investment activities of self-governing regions take place with the declared intention to effectively serve the needs of their regional populations in the required quality and demand. The empirical research among the regional populations was carried out to contrast the quantitative indicators with the subjective views of their citizens.

# Methodology and research sample

The questionnaire used was divided into three thematic areas. Besides the classical identification questions, other questions were focused on the investigation into the satisfaction of the relevant citizens with the management of the regional economy and their perception of long-term investment activities from the point of view of the true volume of funds invested and the populations' priorities.

The questionnaire findings were further processed using descriptive statistics and the statistical method STATISTICA and SPSS 17.0. The parent population included 450 respondents, 150 people for each region, of which 43.56% (196 respondents) were male and 56.44% (254 respondents) were female. As for their ages, 60% were between 18 and 35 years old, 27.8% between 36 and 45 years old and 12.2% at the age between 46 and 67 years old. The majority of the people in the research sample were those with a university degree; 29.8% had attained undergraduate qualifications; 28.2% held graduate degrees, and another 1.1% possessed post-graduate qualifications.

Of the remaining respondents, 29.1% had completed secondary education by passing a school-leaving examination (equivalent to A-levels in Britain), 10.9% had completed school without examination, and finally 0.9% of respondents had only completed primary education. The level of public satisfaction with the regional economy management is shown in Table 3. The respondents rated their satisfaction on the 1 - 5 scale, with 1 meaning "very satisfied" and 5 "very dissatisfied".

TABLE 3 - LEVEL OF PUBLIC SATISFACTION WITH THE REGIONAL ECONOMY MANAGEMENT OF THE SELF-GOVERNING REGION

| 1  | 2  | 3   | 4   | 5  |
|----|----|-----|-----|----|
| 11 | 54 | 135 | 170 | 80 |
|    |    |     |     |    |

The perception of directing long-term investment into specific sections from the point of view of the regional population was expressed on a five-point scale from "very many" to "no" investments.

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|   | Very many | Many | Average | Few | No |
|---|-----------|------|---------|-----|----|
| Regional self-<br>governing office<br>operation | 147       | 218  | 68      | 14  | 3  |
| Transportation                                  | 7         | 162  | 152     | 126 | 3  |
| Healthcare                                      | 0         | 20   | 77      | 276 | 77 |
| Culture   | 7         | 33   | 175     | 193 | 42 |
| Education                                       | 6         | 83   | 166     | 170 | 25 |
| Social care                                     | 1         | 26   | 194     | 192 | 37 |

TABLE 4 - LONG-TERM INVESTMENTS FROM THE SUBJECTIVE POINT OF VIEW OF THEIR ALLOCATION/DIRECTION

The last question of the questionnaire was left to allow the citizens to contribute their own subjective recommendations in terms of the increase of investment activity in the region, expressed on the same five-point scale from "very many" investments to "no" investments into the individual budget sections.

| TABLE 5 - LONG-TERM INVESTMENTS FROM THE SUBJECTIVE POINT OF VIEW OF THEIR NECESSARY/DESIRED |  |
|--|--|
|  |  |

| ALLOGATION/DIRECTION                     |           |      |         |     |    |  |  |  |  |
|--|-----------|------|---------|-----|----|--|--|--|--|
|  | Very many | Many | Average | Few | No |  |  |  |  |
| Regional self-governing office operation | 5         | 38   | 201     | 154 | 52 |  |  |  |  |
| Transportation                           | 167       | 197  | 83      | 1   | 2  |  |  |  |  |
| Healthcare                               | 267       | 170  | 12      | 0   | 1  |  |  |  |  |
| Culture                                  | 88        | 211  | 135     | 13  | 3  |  |  |  |  |
| Education                                | 194       | 222  | 31      | 0   | 3  |  |  |  |  |
| Social care                              | 90        | 178  | 175     | 4   | 3  |  |  |  |  |

Hypothesis 1: It is assumed that there is a correlation between a particular region and the level of its satisfaction with the management of the regional economy.

To prove or disprove the hypothesis a correlation analysis between two quantitative variables was conducted.

TABLE 6 - THE RESULT OF THE CORRELATION ANALYSIS FOR THE REGIONAL POPULATION SATISFACTION IN THE REGION

| Variables<br>X & Y    | Correlation<br>Correlations become significant at the level p < .05000<br>(All cases omitted in ChD) |                   |          |         |   |     |                        |                                  |                           |                                  |
|-----------------------|--|-------------------|----------|---------|---|-----|------------------------|----------------------------------|---------------------------|----------------------------------|
|                       | Average  | Stand.<br>deviat. | r(X,Y)   | t       | р | N   | Depend.<br>constant: Y | Direction<br>of<br>depend.:<br>Y | Depend.<br>constant:<br>X | Direction<br>of<br>depend.:<br>X |
| Level of satisfaction | 3.5644   | 0.9951            |          |         |   |     |                        |                                  |                           |                                  |
| Region                | 2  | 0.8174            | -0.31487 | -7.0218 | 0 | 450 | 2.9219                 | -0.2586                          | 4.3311                    | -0.3833                          |

Legend to the correlation analysis tables: r (X, Y) – a correlation coefficient, t – the significance test for the correlation coefficient, t statistic; p – the probability of error of the first kind, N – the number of measurements, H0:  $\rho = 0$  against H1:  $\rho \neq 0$ ;  $\alpha = 0.05$ 

The correlation coefficient was -0.31487, p = 0; p < 0.05; thus H0 is rejected: there is very little indirect linear dependence between the region and the level of satisfaction of the regional population with the management of the regional economy.

| TABLE 7 - THE RESULT OF THE CORRELATION ANALYSIS BETWEEN THE CURRENT AND DESIRED STATES OF INVESTMENT |  |                   |         |        |         |     |                     |                          |                     |                          |
|---|--|-------------------|---------|--------|---------|-----|---------------------|--------------------------|---------------------|--------------------------|
| Variables<br>X & Y  | Correlations are significant at the level p < 0.05 |                   |         |        |         |     |                     |                          |                     |                          |
| Current state –<br>Office   | Average  | Stand.<br>deviat. | r(X,Y)  | t      | Р       | Ν   | Dep.<br>const.<br>Y | Depen.<br>direction<br>Y | Dep.<br>const.<br>X | Depen.<br>direction<br>X |
| Desired state<br>– Office   | 1.9067   | 0.8093            |         |        |         |     |                     |                          |                     |                          |
| Current state –<br>Transportation   | 3.4667   | 0.8468            | -0.1865 | -4.018 | 0.00007 | 450 | 3.8388              | -0.1952                  | 2.5246              | -0.1783                  |
| Desired state -<br>Transportation   | 2.9022   | 0.8491            |         |        |         |     |                     |                          |                     |                          |
| Current state –<br>Healthcare   | 1.8311   | 0.7597            | -0.1016 | -2.161 | 0.03115 | 450 | 2.0950              | -0.0909                  | 3.1102              | -0.1136                  |
| Desired state<br>– Healthcare   | 3.9111   | 0.7164            |         |        |         |     |                     |                          |                     |                          |
| Current state –<br>Culture  | 1.4400   | 0.5720            | -0.1326 | -2.832 | 0.00483 | 450 | 1.8541              | -0.1059                  | 4.1503              | -0.1661                  |
| Desired state<br>– Culture  | 3.5111   | 0.8234            |         |        |         |     |                     |                          |                     |                          |
| Current state –<br>Education  | 2.1822   | 0.7996            | -0.2433 | -5.308 | 0.00000 | 450 | 3.0116              | -0.2362                  | 4.0578              | ۔<br>0.25051             |
| Desired state<br>– Education  | 3.2778   | 0.8731            |         |        |         |     |                     |                          |                     |                          |
| Current state –<br>Social care  | 1.6578   | 0.6662            | -0.1693 | -3.636 | 0.00031 | 450 | 2.0813              | -0.1292                  | 3.6456              | -0.2219                  |
| Desired state<br>– Social care  | 3.5289   | 0.7374            |         |        |         |     |                     |                          |                     |                          |
|   | 2.2267   | 0.7965            | -0.2084 | -4.509 | 0.00001 | 450 | 3.0209              | -0.2251                  | 3.9584              | -0.1929                  |

(Source: The authors based on the outputs from the STATISTICA program)

Hypothesis 2: It is assumed that there is a statistically significant correlation between the variables of the current and desired states of directing long-term investments.

To prove or disprove the hypothesis a correlation analysis was conducted.

The correlation coefficient was negative in all cases, and the statistical significance is lower than the significance level a as well. Thus, H0 is rejected: there is negative dependence between the current and desired states of directing long-term investments.

Hypothesis 3: It is assumed there are statistically significant differences in how the population in the analysed region perceives the directing of long-term investments into particular budget sections.

The analysis of variance (ANOVA) was used to verify the hypothesis, and when the statistically significant differences were detected, Tukey's test was used as well.

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|   | Sum of<br>Squares | df  | Mean<br>Square | F      | Sig. |
|---|-------------------|-----|----------------|--------|------|
| Current state of Between<br>directing Groups<br>investments – | 14.253            | 2   | 7.127          | 11.384 | 0    |
| Regional self- Within<br>governing office Groups              | 279.827           | 447 | 0.626          |        |      |
| operation Total   | 294.08            | 449 |                |        |      |

TABLE 8 - THE ANOVA ANALYSIS FOR THE REGIONAL SELF-GOVERNING OFFICE

(Source: The authors based on the outputs of the SPSS 17.0 program)

Legend to the ANOVA tables: Sum of squares – the sum of values, df – degrees of freedom, Mean Square – the average, F – statistic, H0:  $\mu$ 1 =  $\mu$ 2 =  $\mu$ 3 against H1:  $\mu$ 1 ≠  $\mu$ 2 ≠  $\mu$ 3 ;  $\alpha$  = 0.05;

In the analysis of variance current long-term investment activities were investigated in the region directed into the regional self-governing office from the point of view of the regional population. Since p <  $\alpha$ , H0 must be rejected: in the subjective view of the citizens in the region there is a statistically significant difference between the current long-term investment activities directed into the regional office in the region. The ANOVA analysis was followed by Tukey's test, which is used to in conjunction with an ANOVA to find means that are significantly different from each other.

TABLE 9 - TUKEY'S HSD TEST FOR THE SECTION OF REGIONAL SELF-GOVERNING OFFICE OPERATION

|     | Subset for a | llpha = 0.05 |
|-----|--------------|--------------|
| Ν   | 1            | 2            |
| 150 | 1,74         |              |
| 150 | 1,83         |              |
| 150 |              | 2,15         |
|     | 150<br>150   | 150 1,74     |

(Source: The authors based on the outputs from the SPSS 17.0 program)

Tukey's test shows that there is no statistically significant difference between the NSGR (1.74) and TSGR (1.83); however, there are differences in the perception of the regional population in the Žilina and Nitra Self-Governing Regions, and the Žilina and Trenčín Self-Governing Regions.

TABLE 10 - THE ANOVA ANALYSIS FOR THE SECTION OF TRANSPORTATION

|   | Sum of<br>Squares | Df  | Mean<br>Square | F     | Sig. |
|---|-------------------|-----|----------------|-------|------|
| Current state of Between directing Groups             | 11.018            | 2   | 5.509          | 7.875 | 0    |
| investments in the Within view of the regional Groups | 312.68            | 447 | 0.7            |       |      |
| population –<br>Transportation Total                  | 323.698           | 449 |                |       |      |

(Source: The authors based on the outputs from the SPSS 17.0 program)

As  $p < \alpha$ , H0 is rejected, there is a statistically significant difference in the perception of investments in the regional transportation between the regions.

| TABLE 11 - TUKEY'S HSD TEST FOR THE SECTION OF TRANSPORTATION |     |                         |      |  |  |  |
|---|-----|-------------------------|------|--|--|--|
| Region  |     | Subset for alpha = 0.05 |      |  |  |  |
|   | N   | 1                       | 2    |  |  |  |
| TSGR  | 150 | 2.69                    |      |  |  |  |
| NSGR  | 150 |                         | 2.97 |  |  |  |
| ŽSGR  | 150 |                         | 3.05 |  |  |  |
|   |     |                         |      |  |  |  |

(Source: The authors based on the outputs from the SPSS 17.0 program)

Tukey's test shows that there is no difference in the views of the citizens living in the NSGR (2.97) and TSGR (3.05); nevertheless, there are differences between the ŽSGR and NSGR, and between the ŽSGR and TSGR. In the Trenčín Self-Governing Region the score was 2.69: its respondents think there was too much finance invested in regional transportation.

TABLE 12 - THE ANOVA ANALYSIS FOR THE SECTION OF HEALTHCARE

|  | Sum of<br>Squares | Df  | Mean<br>Square | F     | Sig. |
|--|-------------------|-----|----------------|-------|------|
| Current state of Between directing investments Groups  | 16.591            | 2   | 8.296          | 17.34 | 0    |
| in the view of the Within regional population – Groups | 213.853           | 447 | 0.478          |       |      |
| Healthcare Total                                       | 230.444           | 449 |                |       |      |

(Source: The authors based on the outputs from the SPSS 17.0 program)

Similarly,  $p < \alpha$ , thus H0 is rejected: there is a statistically significant difference in the perception of the regional population of the investments being directed into regional healthcare between the regions.

| TABLE 13 - TUKEY'S HSD TEST FOR THE SECTION OF TRANSPORTATION |
|---|
|---|

| Region |     | Subset for alpha = 0.05 |      |  |  |  |
|--------|-----|-------------------------|------|--|--|--|
|        | N   | 1                       | 2    |  |  |  |
| ŽSGR   | 150 | 3,64                    |      |  |  |  |
| NSK    | 150 |                         | 4,03 |  |  |  |
| TSK    | 150 |                         | 4,06 |  |  |  |

(Source: The authors based on the outputs from the SPSS 17.0 program)

Tukey's test does not reject the consistency in the perception of the investments in healthcare by the inhabitants in the NSGR (4.03) and TSGR (4.06). Again, there is a statistically significant difference in the relationship to the ŽSGR (3.64).

| TABLE 14 - THE ANOVA ANALYSIS FOR THE SECTION OF CULTURE |
|--|
|  |

|   | Sum of<br>Squares | Df  | Mean<br>Square | F     | Sig.  |
|---|-------------------|-----|----------------|-------|-------|
| Current state of Between directing Groups             | 1.364             | 2   | 0.682          | 1.006 | 0.366 |
| investments in the Within view of the regional Groups | 303.08            | 447 | 0.678          |       |       |
| population – Culture Total                            | 304.444           | 449 |                |       |       |

(Source: The authors based on the outputs from the SPSS 17.0 program)

The value  $p=0.366 > \alpha$ ; thus H0 cannot be rejected. The perception in all three regions is consistent.

| TABLE 13 - THE ANOVA ANALYSIS FOR THE SECTION OF EDUCATION |                   |                   |     |                |        |      |
|--|-------------------|-------------------|-----|----------------|--------|------|
|  |                   | Sum of<br>Squares | Df  | Mean<br>Square | F      | Sig. |
| directing  | Between<br>Groups | 27.071            | 2   | 13.536         | 19.195 | 0    |
| VIOW of the regional                                       | Within<br>Groups  | 315.207           | 447 | 0.705          |        |      |
| Education  | Total             | 342.278           | 449 |                |        |      |

TABLE 15 - THE ANOVA ANALYSIS FOR THE SECTION OF EDUCATION

(Source: The authors based on the outputs from the SPSS 17.0 program)

The value  $p=0 < \alpha$ ., therefore, H0 is rejected.

| Devien |     | Subset for alpha = 0.05 |      |      |  |  |
|--------|-----|-------------------------|------|------|--|--|
| Region | N   | 1                       | 2    | 3    |  |  |
| NSGR   | 150 | 2.99                    |      |      |  |  |
| ŽSGR   | 150 |                         | 3.26 |      |  |  |
| TSGR   | 150 |                         |      | 3.59 |  |  |

(Source: The authors based on the outputs from the SPSS 17.0 program)

Tukey's test shows differences for the educational budget section. The inhabitants of the NSGR regarded these investments as sufficient (2.99), whereas the inhabitants of the ŽSGR are more demanding (3.26), and those living in the TSGR (3.59) considered the investments to be insufficient.

|  | Sum of<br>Squares | Df  | Mean<br>Square | F     | Sig.  |
|--|-------------------|-----|----------------|-------|-------|
| Current state of Between directing investments Groups  | 0.484             | 2   | 0.242          | 0.444 | 0.641 |
| in the view of the Within regional population – Groups | 243.64            | 447 | 0.545          |       |       |
| Social care Total                                      | 244.124           | 449 |                |       |       |

(Source: The authors based on the outputs from the SPSS 17.0 program)

The value  $p=0.6410 > \alpha$ ; thus, H0 is not rejected. Regarding regional social care, the perception of all inhabitants of the three regions is the same: they believe the volume of funds invested in their regional social care is rather low.

### **5. CONCLUSIONS**

The indicators of GDP per capita, its growth rate, the unemployment rate, and the average monthly income incorporated into the composite index of economic performance served to compare the performance of some selected regions in the Slovak Republic. When the situation in regions is

comparable, it is possible to investigate the differences in the management of investments. The comparative analysis, which was conducted during a nine-year period with respect to the volume of long-term investments in specific budget sections, such as regional self-governing office operations, transportation, healthcare, culture, education and social care, clearly identified the Žilina Self-Governing Region as the most active region (with a score of 87.01), followed by the Trenčín Self-Governing Region (61.87 points), and the Nitra Self-Governing Region (56.62 points). The empirical section of the article contained a questionnaire survey carried out among the populations of the analysed regions intended to map their opinions on long-term investment activities. It was shown that there is only very slight negative linear dependence between the level of satisfaction of the citizens and the management of each regional economy. Very low indirect dependence exists between the current and desired states of directing long-term investments in the view of each regional population. The ANOVA confirmed interregional differences in the sections of self-governing office operations, transportation, healthcare, and education.

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### REFERENCES

BARRO, R. J., SALA-I-MARTIN, X. 1999. Economic Growth. MIT Press.

- CLARK, J.J., PRITCHARD, R.E., HINDELANG, T.J. 1989. Capital Budgeting: Planning and Control of Capital Expenditure. Englewood Cliffs: Prentice Hall. ISBN 0-131-14877-X
- DAVID VYKYDAL, PETRA HALFAROVÁ, JAROSLAV NENADÁL. 2013. Customer Loyalty Measurement at Czech Organizations. Quality, Innovation, Prosperity. Vol. 17. No. 1 (2013). ISSN 1335-1745. DOI: 10.12776/qip.v17i1.66
- DEVARAJAN, S., SWAROOP, V., ZOU, H. 1996. *The Composition of Public Expenditure and Economic Growth.* Journal of Monetary Economics 37, pp. 313–344.
- DOBREA, C., CIOCOIU, N., DINU, F. 2013. The Efficiency of Investment at Regional Level in Romania: an Approach with Data Envelopment Analysis. Economic Computation and Economic Cybernetics Studies and Research. Vol. 47. No. 2, pp. 157-170.
- FISHER, I. 1930. The Theory of Interest. New York: The Macmillan Co.
- HUDEC, O. 2008. Strategic Intelligence and Regional Innovation Strategies. Region Direct. Vol. 1. No. 1, pp. 76-87.
- KRÁLIK, J. a kol.. 2010. Procesy a efektivita vo verejnej správe územná samospráva. Banská Bystrica: FPVaMV UMB. ISBN 978-80-557-0106-6.
- LUCAS, R. E. 1988. On the Mechanics of Economic Development. Journal of Monetary Economics 22, pp. 3–42.

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- REBELO, S. (1991) *Long-Run Policy Analysis and Long-Run Growth.* Journal of Political Economy 94:5, pp. 56–62.
- ROMER, P. M. 1986. *Increasing Returns and Long-Run Growth.* Journal of Political Economy 94.5, pp. 1002–1037.
- SUHÁNYI, L. 2009. Realization of PPP Projects in the Slovak Republic. In: 3rd Central European Conference in Regional Science. Košice: TU. Faculty of Economics, pp.1349-1356. ISBN 978-80-553-0329-1.
- SUHÁNYI, L. 2012. Investment Decision-Making of Self-Governments. Management 2012: Research Management and Business in the Light of Practical Needs. Prešov: Bookman. pp. 145-148. ISBN 978-80-89568-38-3.
- SUHÁNYIOVÁ, A., HORVÁTHOVÁ, J. 2013. Finančné informácie o verejnej správe poskytované účtovníctvom. In: Možnosti zefektívnenia rozhodovacích procesov pri investičnom rozhodovaní regionálnych samospráv. Prešov: Bookman. pp. 64-71. ISBN 978-80-8165-022-2
- SZABO, S., FERENCZ, V. & PUCIHAR, A. 2013. *Trust. Innovation and Prosperity.* Quality. Innovation. Prosperity. Vol. 17. No. 2 (2013). ISSN 1335-1745. DOI: 10.12776/qip.v17i2.224
- VALACH, J. 2006. Investiční rozhodování a dlouhodobé financování. 2.vyd. Praha: Ekopress. ISBN 80-86929-01-9.
- VIDOVÁ, J. 2002. Investičná teória a politika semináre. Národohospodárska fakulta Ekonomickej univerzity v Bratislave. Bratislava: EKONÓM. ISBN 80-228-1545-0.
- ZGODAVOVA, K. & BOBER, P. 2012. An Innovative Approach to the Integrated Management System Development: SIMPRO-IMS Web Based Environment. Quality, Innovation, Prosperity. Vol. 16. No. 2 (2012). ISSN 1335-1745. DOI: 10.12776/qip.v16i2.69
- SARIO. 2013. Regionálne analýzy [on-line]. [cit. 2013-10-03]. Available at: http://www.sario.sk/sk/investujte-na-slovensku/regionalne-analyzy
- ŠTATISTICKÝ ÚRAD SR. 2014. Databáza regionálnej štatistiky. [online]. [cit. 2014-01-07]. Available at: http://px-web.statistics.sk/PXWebSlovak/
- TVRDON, M., SKOKAN, K. 2011. Regional Disparities and the Ways of their Measurement: The Case of the Visegrad Four Countries. Technological and Economic Development of Economy. Vol: 17 (3), pp. 501-518.