

Public Expenditure Evolution in EU4 Countries

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Abstract: *In contemporary society, the economy is the main pillar on which the state is based and life society is directly influenced by its evolution. So, development, or rather growth affects the smooth running of things, but this in turn is influenced by the decisions taken by individuals from government institutions, the ability of people to make profitable investments, but also to manage it more efficiently. The paper aims to highlight the importance of knowledge in public spending system, because the local communities or nations have to be awareness that nowhere can not consume more than they produce, and when this happens, the social-economic progress is endangered, so burden and poverty population are inevitable consequences. The study is based on analysis of public expenditure system in four Eastern European countries (Czech Republic, Romania, Slovakia, Hungary) in the period 2000-2013.*

Keywords: public expenditure, economic growth, public sector, income.

JEL Classification: H54, H57.

1. Introducere

The size of the public sector varies significantly across countries, even among those at comparable income level. Many studies on public economics provided empirical support for the idea that the public sector are likely to develop in the long run comparative to national income. This view is in accordance with the Wagner's law (1893) which stated that there exist a positive relationship between the level of economic development and scope of government, as income increases the taxes and government expenditure, including social expenditure. A smaller number of studies investigate the ratchet effect hypotheses of Bird (1971, 1972) which indicates that in a crises government spending decreases more slowly than the per capita income, so that the government spending as a share of income increases, while the reverse is true in upturns.

In order to explain the increase of public expenditure as a share of income, Durevall and Henrekson (2011) test these two theories for two representative countries during a very long period (207 years for Sweden and 177 years for the UK). They did not provide general support neither for Wagner's law nor for ratchet effect hypotheses. However, their finding indicates that the Wagner's law is relevant over the period when the economy goes through a process of modernization, including the introduction of public education, healthcare and so forth and in the recent periods the GDP evolution only influences the government spending share. On the other hand, they suggest that ratchet effect is not a general cause of the growth government spending.

Since 2007 practically all European nations have been affected by financial crises, experiencing economic recessions. Among the first affected countries were those with wide financial centers and banking systems. In some countries, officials employed important financial stimulus packages to save banks, absorbing their debts into the public sector's balance sheet. Concomitantly, economic recessions generated an increase in the unemployment and a reduction in the incomes, resulted in a decline

in consumer expenditures and associated tax revenues. All these lead to large increases in government deficits, rising national public debts. As a consequence, the reduction of public deficits became a major priority. In order to reduce deficits, governments started to implement austerity policies that imply budget cuts, increased taxes on corporations, individual or household incomes, value-added or sales taxes and other types of taxation (Reeves, McKee and Stuckler D., 2014).

2. Literature review

Taking into account the importance of public expenditure in supporting the economic growth, many studies are focused on the evolution of public expenditures and its structures both at the level of one country and at the level of a sample of countries.

Reeves, McKee and Stuckler D. (2014) assess political, economic and health system factors of recent changes of healthcare expenditure, using cross-national, harmonized data for 27 EU member states for the period of 1995-2011. Their empirical research reveals that during the period of budgetary austerity, the burden of budget cuts is concentrated in a large extend in the healthcare sector, mainly in the countries exposed to IMF lending agreements. They also show that decline in government healthcare spending was not significantly associated with scale of economic recession. On the contrary, every decrease of tax revenue was associated with a fall in health expenditure. Consistently with data from prior historical recessions, they find that IMF borrower countries were considerably more probable to decrease healthcare budget in comparison with non-IMF borrower countries. Their final conclusion was that the healthcare spending changes in EU countries are more correlated with exposure to lending from international financial institutions, tax revenues drops, and cuts implementation than with underlying economic conditions or ideology of governing parties.

In many developed countries health spending growth rates have been a subject of concern for years. This is because modern societies have been gradually modified their population structure under the impact of increasing in life expectancy and considerably decreasing in birth rates. Blanco-Moreno, Urbanos-Garrido and Thuissard-Vasallo (2013) evaluate the impact of demography, health status, death related cost and some macroeconomic variables on the evolution of health spending. Their empirical study shows that the intensity of healthcare use, instead of ageing, is the most important driver of health spending. Therefore, in order to control the health expenditure, the authorities' concern should be focused on factors such as the population's healthcare status, economic growth and development, new technologies and medical progress, and the organization and management of healthcare system.

Mihaiu and Opreana (2013) assess the impact of public expenditure for investments on the level of development in Romania. Their study indicates that the public expenditures allocate to investments had a positive impact on the economic recovery of the country, but only during the first decade of transition to market economy. Although during the period of 2000-2010 Romania had the largest public investment expenditure across European countries as a share of GDP and in 2011 was surpassed only by Poland, these spending had not have a significant positive impact on the economic development. This is because, taking into account Lisbon Index score, which evaluate the countries' performance to accomplish the current Lisbon strategy's objectives, Romania is ranked on the penultimate position, being followed only by Bulgaria. This poor performance in attaining the development objectives can be explain by the low efficiency of the investment projects financed by

public resources and the low absorption rate of EU funds (in 2013 Romania recorded the lowest absorption rate of structural and cohesion funds among CEE countries).

3. Indicators to measure public expenditures

- **Level of public expenditures**

The level of total public expenditure and the various categories of expenditures is assessed both statically and dynamically, based on the following indicators:

- The volume of public expenditure in nominal and real expression;
- The share of public expenditure in GDP;
- The volume of public expenditures per capita average.

- **The structure of public expenditures**

Public Expenditures Review of a country can be carried out in terms of their structure in different categories according to a certain criterion of classification. The most important groups are the economic and functional classifications. This means that it is necessary the establishment of wages for each category of public expenditures in its total.

- **The dynamics of public expenditures**

The dynamics of public expenditure expressed changes that occur in the amount and structure over a period of time. For the period considered, dynamic indicators of public expenditures are:

- *Nominal growth and real growth of public expenditures;*

For accurate assessment of expenditures, it is necessary to distinguish between nominal and real growth.

Nominal growth results from the comparison of public expenditures expressed in current prices and real growth results from the comparison of costs expressed in constant prices.

Comparison of expenditures expressed in current prices (nominal growth) can give a misleading picture if in the period under review has been a currency depreciation, which leads to an increased of nominal expenditures or an economic crisis, or a monetary crisis that determined a decrease of prices and respectively nominal reduction of expenditures. In order to correct the influences caused by price changes, it is necessary to expressed expenditures growth in constant prices. If the period chosen for analysis, the expenditures are expressed in constant prices, it can proceed to their processing from current prices in the base period prices, with the help of price growth index (deflator index). Also, the analysis of absolute growth in public expenditure should be complemented with an analysis of their relative growth, using the index of increase public expenditures.

- *Change of public expenditures wage in GDP;*
- *Change in the average public expenditure level per capita;*
- *Change in the composition of public expenditures;*
- *Indicator regarding the correlation between increased public expenditures and GDP growth;*

- *Elasticity of public expenditures to GDP.*

This indicator measures the extent reaction of public expenditures to GDP change. If the coefficient presents values above one, it expresses the tendency of using to use a greater measure of GDP, to finance public expenditure. This means that public expenditures are elastic to GDP growth. If the elasticity is below the unity, it expresses the tendency to restrict the share of public expenditure in GDP. Public expenditures are inelastic to GDP growth.

4. The evolution of public expenditures EU4 countries

Although public spending can be considered in terms of economic as positive, negative or neutral, the question is that if they may be considered wholly or partly as productive or profitable.

Long term, productivity and profitability (efficiency) notions were associated only to private expenditures. Currently due to the expanded role of the state and considerable growth of public expenditures, it becomes more insistent the problem of determining the productive or unproductive character of different types of expenditure and measure their effectiveness.

As a general rule, any expenditure, whether aimed the satisfaction of material or immaterial social needs is productive. From an accounting perspective, the productivity of public expenditures results from the comparison of the social value of utilities provided by the State, as public authority, with the goods and services consumed by it. Differences in more or less, influence each country's GDP, respectively to increase or decrease its GDP.

Return on public expenditures is more difficult to assess because it implies that what you get is more valuable than what was consumed, or in many cases public services are more expensive than what you get. Moreover, if the consumption of goods and services can be easily and accurately quantified, the same can't be said about the effects of state activity, both due to the overrun of the effects to work (consumption) and because some state services can be evaluated in a very different way (controversial).

4.1 The evolution of public expenditure level

Nominal public expenditures have been on an upward trend in 2000-2008 in the four analyzed countries. Following the emergence of the global financial crisis in Europe, nominal public expenditures declined in Hungary and Romania, respectively have stalled in Czech Republic and Slovakia. The highest nominal public expenditure is recorded in Czech Republic, followed by Hungary, Romania, Slovakia. In Figure 1, we can see that the nominal public expenditure in 2008-2013 realized by Romania are higher than those achieved by Hungary. So, the nominal public expenditure in Czech Republic increased from 26,5 mil. Euro to 63,3 million Euro, in Romania tripled (15,7 to 49,7 million Euro) in Slovakia increased from 10,5 million Euro to 27,9 million Euro, respectively in Hungary doubled (from 24 to 49 million Euro) in the analyzed period.

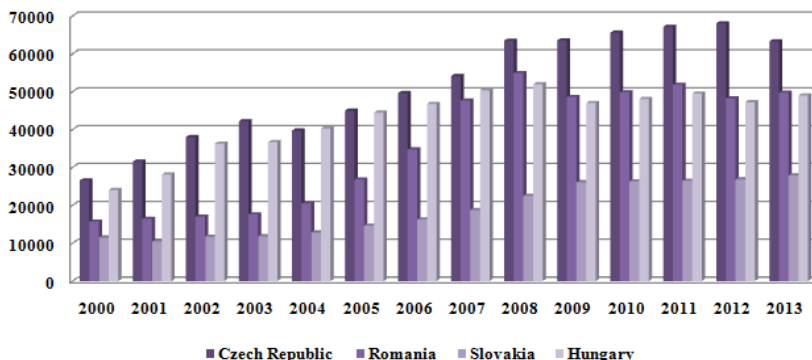


Chart 1. Nominal public expenditure in EU4 countries (mil. Euro)

Source: Eurostat

Real public expenditure shows the same trend as nominal public expenditure, except in the period 2000-2003, the real public expenditure from Romania is on a downward trend. However, in 2000, these expenses are exceeded those incurred in other countries (Chart 2).

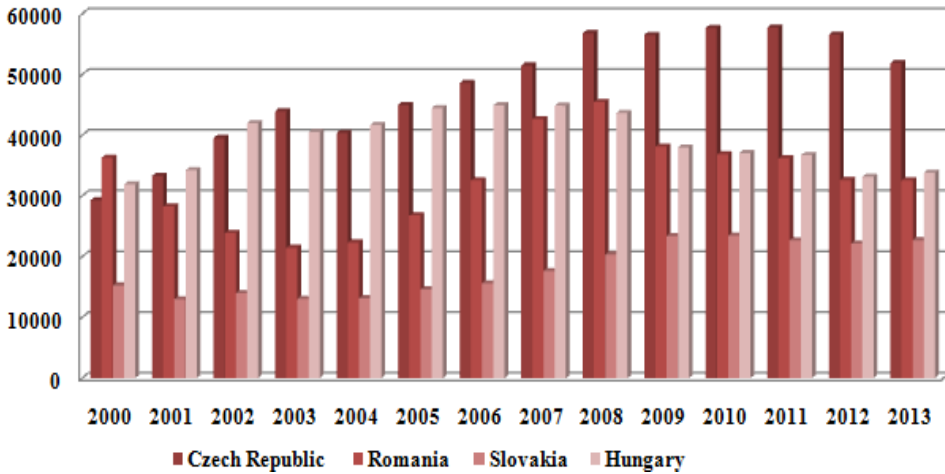
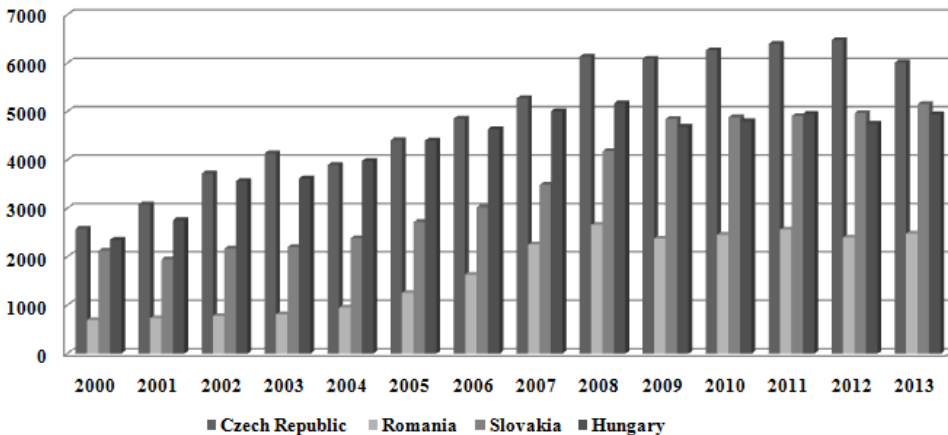


Chart 2. Real Public Expenditure in EU4 countries (mil. Euro)
 Source: Authors processings

The average public expenditure per capita follows the same trend as nominal public expenses (Chart 3). From the four surveyed countries, the Czech Republic spends more per capita, while Romania the least. Thus, the average per capita expenditure in Czech Republic increased from 2580 euros to 6020 euros, in Slovakia and Hungary they doubled (in Slovakia reached 5160 Euro from 2130 euro and in Hungary increased from 2350 to 4950 euro per capita) and in Romania tripled (in 2013 reached 2490 euro from 700 euro, as it was in 2000). However, the average expense per capita in Romania is only half the value recorded in other analyzed countries.



Graph 3. Average level of public expenditure per capita in EU4 countries (euro/person)

Source: Authors processings

The wage of public expenditures in GDP in the analyzed countries is in the range 33% -52% in the period 2000-2013 (Chart 4). In Czech Republic this wage ranges from 41% to 50%, the highest percentages were provided to social protection and health (Annex 1). Romania has the lowest wage of public expenditure in GDP, 33% - 41%, where social protection expenditures and economic affairs are dominating (Annex 2). Also, in Romania is allocated the lowest percentage of GDP on education (3.7%) and health (3.3%). In Slovakia, the share is in the range 34% - 52% and categories of expenditure that have the largest share of GDP are: social protection and general public services (Annex 3), as well as in Hungary (Annex 4). The greatest share of public spending in GDP is held by Hungary (48% - 52%).

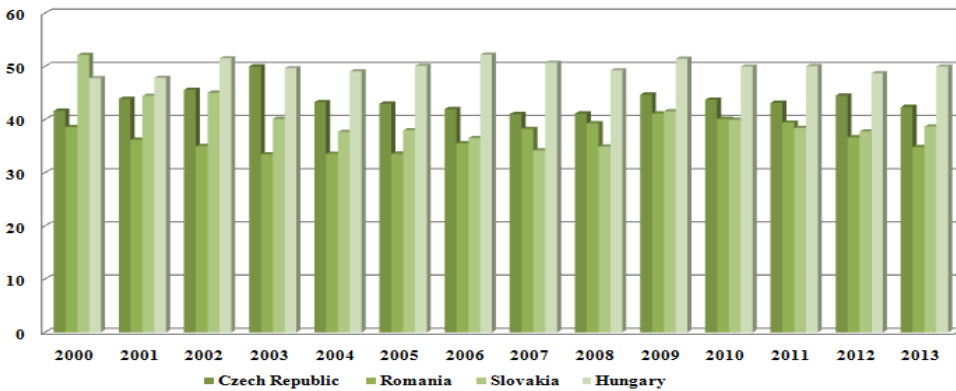


Chart 4. Wage of public expenditures in GDP in EU4 countries (%)

Source: Authors processings

4.2 The evolution of public expenditures structures

Category of expenditures which holds the largest share are social protection expenditure (about one third of total public expenditure). In Czech Republic, the most funded categories of expenses are (chart 5): social protection expenditure (30%), economic affairs (16.7%), health (16.6%) and education (10.7%).

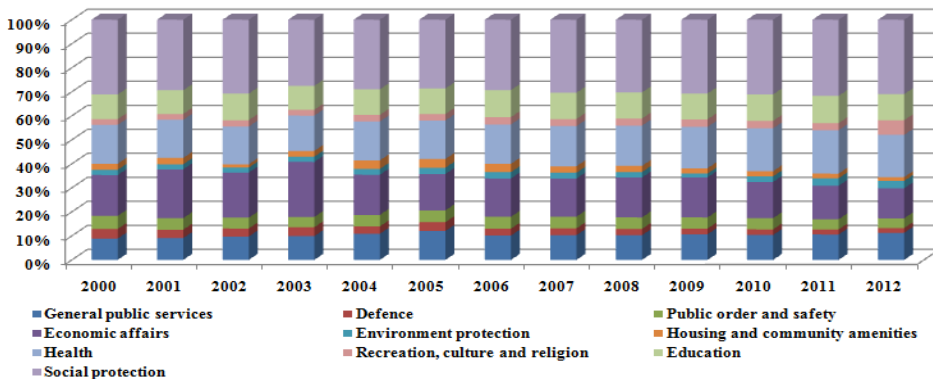


Chart 5. Structure of public expenditures in Czech Republic

Source: Authors processings

According to Figure 6, in Romania, the largest share in the structure of public expenses are owned by social protection expenditure (31.4%), economic affairs (16.8%), general public services (12.8%), and education (10.2%). From 2007, military service is not compulsory in Romania, so defense expenditure has come to represent only 2% of total expenditure.

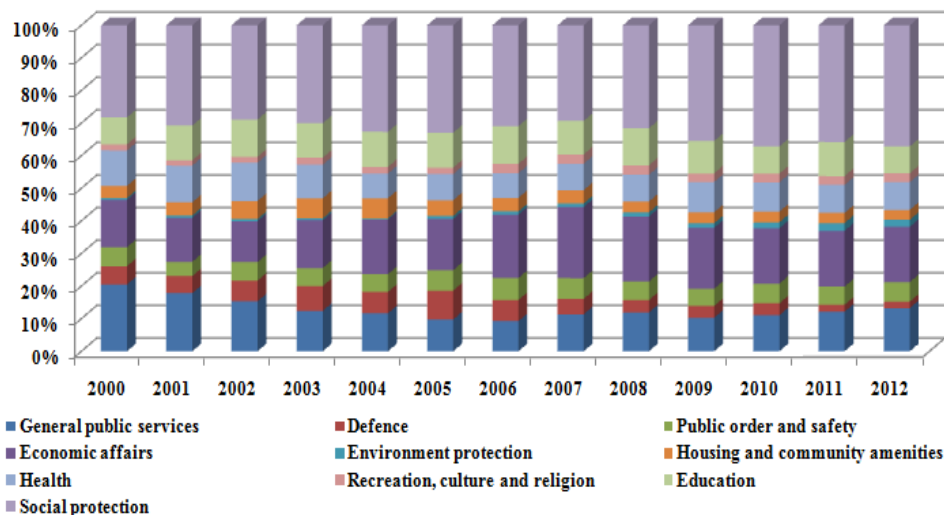


Chart 6. Structure of public expenditures in Romania

Source: Authors processings

In Slovakia, it changes the order of importance of public expenditure (Chart 7). Thus, social protection expenditure is 31.5%, health expenses 15%, expenses on generale public services 14,6% and economic affairs expenses 12.4% of total public expenditure.

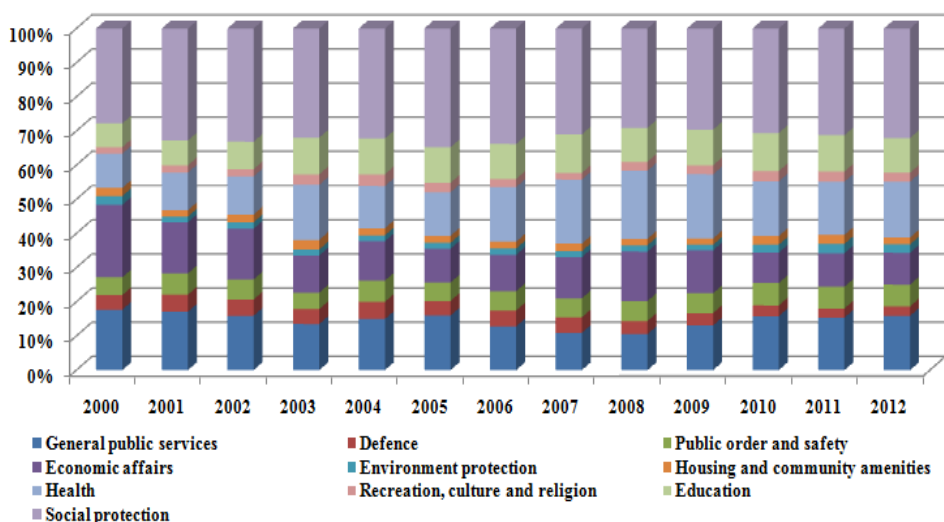


Chart 7. Structure of public expenditures in Slovakia

Source: Authors processings

In Hungary, social protection expenditure is 33.6% (chart 8). These are followed by general public services expenses (19, 3%), economic affairs (12.5%) and education expenditure (11%).

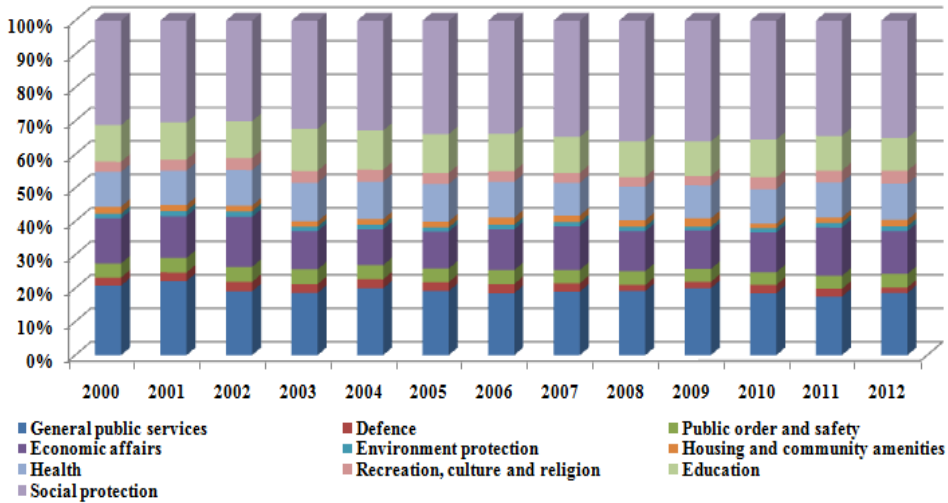


Chart 8. Structure of public expenditures in Hungary
Source: Authors processings

4.3 Dynamics evolution of public expenditures

Coefficient of downgrade presents oscillatory values over the analyzed period (Chart 9). In Romania, the coefficient presents values above one in the period 2004-2010, which means that GDP is ahead by public expenditures in this period. For other years, the values are below one, which means: public expenditure is lagging behind GDP.

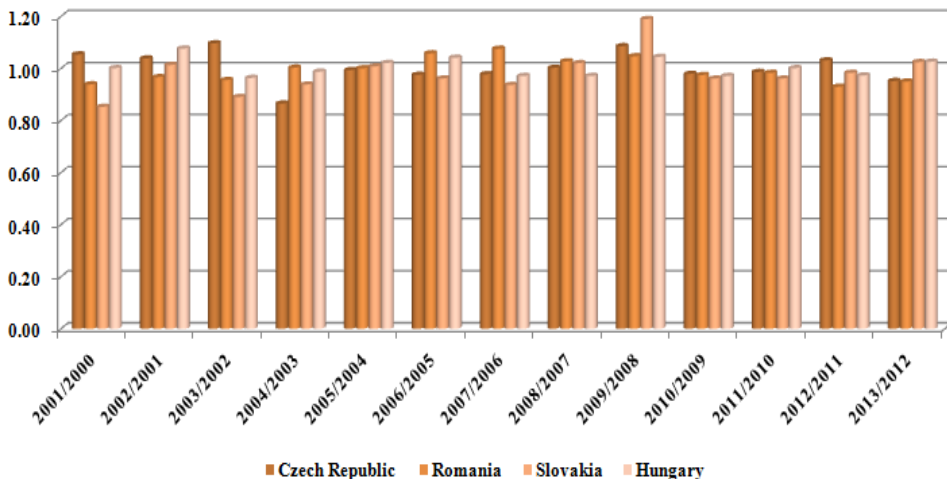
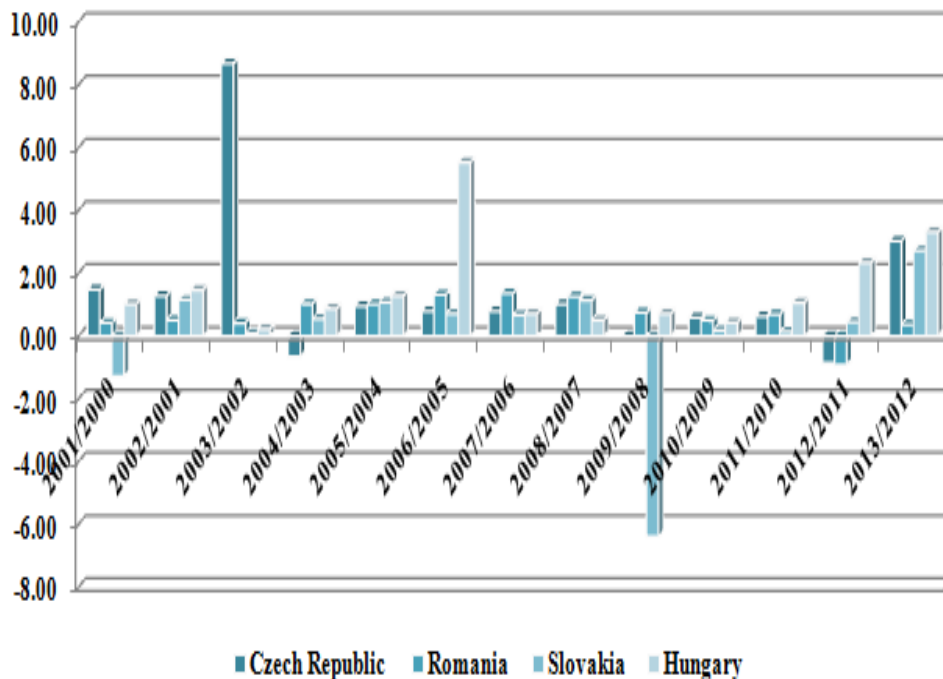


Chart 9. Coefficient of downgrade of public expenditures to GDP
Source: Authors processings

The coefficient of elasticity presents values below one, in general (Chart 10), which means that public expenditures are inelastic in relation to GDP. In Romania, the expenditures are elastic only for the period 2004-2009, in the period of the time remaining; the expenditures are inelastic in relation to GDP.



Graph 10. Coefficient of Elasticity

Source: Authors processings

4. Conclusions

In the conditions of prolonged crisis that swept almost all countries worldwide, we want to show the importance of finding methods that are most hostile on the issue of collecting, identifying and implementing more efficient ways to use public funds.

We think that especially, in the current conditions, public expenditure can have another purpose than public utility, what can be seen in terms of urgency, since it may be useful but not currently, the expense must be absolutely necessary, indispensable for social life of the state, in order to be approved and implemented.

Public expenditures must contain three elements: the use of money, the amounts used by state or a territorial-administrative unit or the use of specified amounts must be made to satisfied some public needs.

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Annexes

Annex 1. Wage of public expenditure in Gross Domestic Product in Czech Republic

Czech Republic	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total expenditure	41.6	43.9	45.6	50.0	43.3	43.0	42.0	41.0	41.1	44.7	43.7	43.2	44.5
General public services	3.7	4.0	4.4	4.9	4.7	5.2	4.3	4.2	4.2	4.8	4.5	4.6	5.0
Defence	1.6	1.5	1.5	1.9	1.3	1.6	1.2	1.2	1.1	1.1	1.0	0.9	0.9
Public order and safety	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	1.8	1.8
Economic affairs	7.1	8.9	8.6	11.5	7.2	6.5	6.7	6.5	6.8	7.4	6.6	6.0	5.6
Environment protection	0.9	0.9	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.7	1.0	1.4	1.4
Housing and community amenities	1.1	1.2	0.6	1.2	1.5	1.6	1.5	1.1	1.1	1.0	0.9	0.8	0.7
Health	6.7	7.0	7.2	7.4	7.0	6.9	6.9	6.9	6.9	7.7	7.8	7.8	7.8
Recreation, culture and religion	1.0	1.1	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.4	1.4	1.3	2.7
Education	4.3	4.3	5.1	5.0	4.6	4.6	4.7	4.5	4.5	4.8	4.8	4.9	4.8
Social protection	13.0	12.9	14.0	13.8	12.5	12.3	12.3	12.5	12.5	13.7	13.6	13.7	13.8

Source: Eurostat

Annex 2. Wage of public expenditure in Gross Domestic Product in Romania

Romania	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total expenditure	38.6	36.2	35.0	33.5	33.6	33.6	35.5	38.2	39.3	41.1	40.1	39.4	36.7
General public services	7.9	6.5	5.4	4.1	3.9	3.3	3.3	4.3	4.7	4.2	4.4	4.8	4.9
Defence	2.2	1.9	2.2	2.5	2.2	3.0	2.3	1.8	1.5	1.5	1.5	0.9	0.7
Public order and safety	2.2	1.6	2.0	1.9	1.8	2.1	2.4	2.4	2.2	2.2	2.4	2.2	2.2
Economic affairs	2.2	4.9	4.4	4.9	5.6	5.3	6.9	8.3	7.8	7.7	6.8	6.7	6.2
Environment protection	2.2	0.3	0.2	0.2	0.1	0.3	0.4	0.4	0.5	0.6	0.7	0.9	0.8
Housing and community amenities	2.2	1.4	1.9	2.1	2.1	1.6	1.5	1.6	1.3	1.4	1.3	1.2	1.1
Health	2.2	4.1	4.1	3.5	2.5	2.7	2.7	3.1	3.2	3.8	3.6	3.4	3.1
Recreation, culture and religion	2.2	0.6	0.6	0.7	0.7	0.7	1.0	1.1	1.1	1.1	1.1	1.1	1.0
Education	2.2	3.9	4.0	3.5	3.6	3.6	4.1	3.9	4.5	4.1	3.3	4.1	3.0
Social protection	2.2	11.1	10.1	10.0	11.0	11.1	11.0	11.2	12.4	14.6	14.9	14.1	13.6

Source: Eurostat

Annex 3. Wage of public expenditure in Gross Domestic Product in Slovakia

Romania	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total expenditure	38.6	36.2	35.0	33.5	33.6	33.6	35.5	38.2	39.3	41.1	40.1	39.4	36.7
General public services	7.9	6.5	5.4	4.1	3.9	3.3	3.3	4.3	4.7	4.2	4.4	4.8	4.9
Defence	2.2	1.9	2.2	2.5	2.2	3.0	2.3	1.8	1.5	1.5	1.5	0.9	0.7
Public order and safety	2.2	1.6	2.0	1.9	1.8	2.1	2.4	2.4	2.2	2.2	2.4	2.2	2.2
Economic affairs	2.2	4.9	4.4	4.9	5.6	5.3	6.9	8.3	7.8	7.7	6.8	6.7	6.2
Environment protection	2.2	0.3	0.2	0.2	0.1	0.3	0.4	0.4	0.5	0.6	0.7	0.9	0.8
Housing and community amenities	2.2	1.4	1.9	2.1	2.1	1.6	1.5	1.6	1.3	1.4	1.3	1.2	1.1
Health	2.2	4.1	4.1	3.5	2.5	2.7	2.7	3.1	3.2	3.8	3.6	3.4	3.1
Recreation, culture and religion	2.2	0.6	0.6	0.7	0.7	0.7	1.0	1.1	1.1	1.1	1.1	1.1	1.0
Education	2.2	3.9	4.0	3.5	3.6	3.6	4.1	3.9	4.5	4.1	3.3	4.1	3.0
Social protection	2.2	11.1	10.1	10.0	11.0	11.1	11.0	11.2	12.4	14.6	14.9	14.1	13.6

Source: Eurostat

Annex 4. Wage of public expenditure in Gross Domestic Product in Hungary

Romania	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total expenditure	38.6	36.2	35.0	33.5	33.6	33.6	35.5	38.2	39.3	41.1	40.1	39.4	36.7
General public services	7.9	6.5	5.4	4.1	3.9	3.3	3.3	4.3	4.7	4.2	4.4	4.8	4.9
Defence	2.2	1.9	2.2	2.5	2.2	3.0	2.3	1.8	1.5	1.5	1.5	0.9	0.7
Public order and safety	2.2	1.6	2.0	1.9	1.8	2.1	2.4	2.4	2.2	2.2	2.4	2.2	2.2
Economic affairs	2.2	4.9	4.4	4.9	5.6	5.3	6.9	8.3	7.8	7.7	6.8	6.7	6.2
Environment protection	2.2	0.3	0.2	0.2	0.1	0.3	0.4	0.4	0.5	0.6	0.7	0.9	0.8
Housing and community amenities	2.2	1.4	1.9	2.1	2.1	1.6	1.5	1.6	1.3	1.4	1.3	1.2	1.1
Health	2.2	4.1	4.1	3.5	2.5	2.7	2.7	3.1	3.2	3.8	3.6	3.4	3.1
Recreation, culture and religion	2.2	0.6	0.6	0.7	0.7	0.7	1.0	1.1	1.1	1.1	1.1	1.1	1.0
Education	2.2	3.9	4.0	3.5	3.6	3.6	4.1	3.9	4.5	4.1	3.3	4.1	3.0
Social protection	2.2	11.1	10.1	10.0	11.0	11.1	11.0	11.2	12.4	14.6	14.9	14.1	13.6

Source: Eurostat