PUBLIC EXPENDITURES IN AREAS OF PUBLIC SECTOR: ANALYSIS AND EVALUATION IN EU COUNTRIES

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Abstract: Public sector, representing a significant part of public economy, is considered one of its supporting pillars. The paper utilises financing of public sector (indicator of the percentage of public expenditures in GDP). It deals with the analysis and evaluation of public expenditures in EU countries according to selected COFOG functions, namely social protection, health, education, culture and recreation, in years 2005 and 2014. Also, three important proportions within total public expenditures are observed in terms of their structure. By means of multidimensional scaling, dissimilarities and similarities in the volume of allocated public resources in EU countries are evaluated with respect to COFOG functions (% of GDP in 2005 and 2014). Results showed that Scandinavian countries and France are among the countries with the best evaluation (most similar) with highest public expenditures. Conversely, Baltic states, Cyprus and Romania (most similar) comprise the second group of countries with the lowest public expenditures. These two sets of countries are least similar in the volume as well as structure of allocated public expenditures in the observed areas of public sector.

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JEL Classification: H75, H83.

Introduction

Public sector is considered one of the supporting pillars of public economy. Being in public ownership, it is the part of national economy owned by public administration bodies and ensuring public goods of collective consumption for the population on a non-profit principle. In public sector, public decisions are made about the range of the production of goods and services of mixed nature. Public sector is subject to public control and is managed by public administration. Public sector is financed mainly from public budgets (Brown, Jackson, 1990; Bailey, 1995; Auerbach, Feldstein, 2006; Cullis, Jones, 2009). Public demands are financed from public expenditures, which are part of GDP. The majority of developed countries have seen a growing tendency of public budgets as well as public expenditures in recent decades, influenced by the extent and structure of state activities in connection with allocation, redistribution and fiscal stabilisation. The role of public sector and its efficiency is approached from different angles (Bosse et al., 2015; Brown, Jackson, 1990; Curristine et al., 2007; Stiglitz, Rosengard, 2015).

This paper renders the structural viewpoint on the size of public sector in four areas of human development in EU countries. The paper aims to provide a theoretical perspective on the public sector and to evaluate the range and structure of public expenditures in selected areas of public sector in EU countries. In relation to the aim, the subject of the paper are public expenditures according to selected COFOG (classification of the functions of the government) functions (social protection, health, education, recreation and culture)

in years 2005 and 2014 and their comprehensive evaluation. By use of multidimensional scaling, similarities and dissimilarities in allocated public expenditures by function are evaluated in the countries. Helping to surmount differences in organisation and methodology, COFOG is important for an international comparison of expenditure policies. According to functional classification COFOG, public expenditures can be divided into ten categories that represent the functional areas of government (state). Research into public expenditures by COFOG function was carried out, for instance, by European Commission (2012); Ferreiro et al. (2013).

1 Statement of a problem – Public Sector and the Role of Public Expenditures

The current theory of economy fails to use a single definition of public sector. As a rule, authors provide the definition based on ownership, financing, legal and administrative approach, systemic approach, institutional approach, or decision-making (Brown, Jackson, 1990; Bailey, 1995; Peková et al., 2012; Maaytová et al., 2015). An in-depth definition of public sector, in terms of national economy, is provided by other authors Halásek (1994); Pestoff (1995), who use four sectors to divide national economies according to three criteria (financing, ownership, law). In national economies, the following intersect and complement one another: 1) public sector, 2) non-government non-profit sector, 3) private sector, and 4) household sector.

Public sector is usually determined in both the European Union and international comparison by financing (the indicator of the percentage of public expenditures to GDP). In international comparison, this ratio is in the region of 30% in traditional liberal countries and of 60% in most Scandinavian countries. Structural analysis of public sector enables comparison of the development of individual public-sector areas within areas in time as well as space (e.g. in education, healthcare, culture, transportation, sport), analysing the share of public expenditures allocated to segments of public sector in relation to GDP also in international comparison (Halásek, 1994; Bosse et al., 2015).

Except minor deviations, developed countries typically show significant dynamics in the growth of public expenditures. Among the most known theories that provide an explanation of public expenditures are Wagner's law, threshold effects, gradual growth, welfare state (Brown, Jackson,1990; Musgrave, Musgrave, 1994; Hillman, 2009). Public spending and Wagner's law in Central and Eastern Europe are dealt with by Szarowská (2012) in her research. When evaluating dynamics of public expenditures, it is necessary to consider indicators of the evaluation and what properties are being observed. Apart from the share of public expenditures in GDP, dynamics of public expenditures and the analysis of changes in its structure can be counted also by means of indicators showing important proportions within total public expenditures (Brown, Jackson, 1990; Peková et al., 2012; Maaytová et al., 2015; Tamošiūnas, Stanytė, 2015).

The financial criterion of public sector can also be observed according to the ESA (European System of Accounts) classification, connected with internal classification of administrative structures, in order to compare economies of EU member states. According to the ESA methodology ("General Government"), it is regarded as the sector which includes central government, state government, local government and social security funds and their expenditures (Neubauerová et al.,2003; Eurostat, 2013).

Structure, trends and quality of public expenditures, including the development of public sector in EU countries, are dealt with in papers by Czech as well as foreign authors e.g.

European Commission (2012); Ferreiro et al. (2013). Public expenditures in selected areas of public sector (education, R&D, infrastructure) and their economic growth, using the example of six Eastern European countries in years 1990-2013, are dealt with by Mura in his empirical analysis (Mura, 2014: 5).

2 Methods

In this paper two analytical methods are mainly used which have been utilised in the analysis of literature and statistical data. The paper makes use of secondary statistical data obtained from Eurostat. The selected set comprises 28 EU countries (Belgium-BE, Bulgaria-BG, Czech Republic-CZ, Denmark-DK, Germany-DE, Estonia-EE, Ireland-IE, Greece-EL, Spain-ES, France-FR, Croatia-HR, Italy-IT, Cyprus-CY, Latvia-LV, Lithuania-LT, Luxembourg-LU, Hungary-HU, Malta-MT, Netherlands-NL, Austria-AT, Poland-PL, Portugal-PT, Romania-RO, Slovenia-SI, Slovakia-SK, Finland-FI, Sweden-SE, United Kingdom-UK). Selected categories of public expenditures in EU countries are evaluated by means of multidimensional scaling. A ten-year period has been chosen in relation to dynamic changes of public expenditures, namely years 2005 and 2014, when the latest data are available. Since data on Greece were not available for 2005, the year 2006 was used instead. All data were processed with the SPSS Statistic 21 software.

Multidimensional scaling (MDS) depicts objects, characterised by multidimensional profiles, in an area (or a multidimensional space), which enables their clear comparison. It also shows relations between variables which play the role of a non-parametric factor analysis in cases when relations between variables fail to be represented by correlations, but rather other coefficients or rates. This method is ideal to compare objects when the basis of the dimensions compared is unknown. The aim of multidimensional scaling is to determine the number of dimensions and the position of an object (object coordinates), (Mazzocchi, 2008). The higher the similarity between two objects (EU countries, for that matter) is, the closer the points representing these are. The output of multidimensional scaling is a scatter diagram (perception map), where individual axes represent basic dimensions, and individual points the objects compared. Numerical outputs form the basis for the construction of the image. Multidimensional scaling has a strong interpretative potential. However, it is also used as the basis for clustering and typology. Multidimensional scaling was used in research by Ersoz, Bayrak (2008); Akkucuk (2011). Two factors are decisive in the evaluation of the validity of multidimensional scaling (Ersoz, Bayrak, 2008; Mazzocchi, 2008):

1) **s-stress** (good-compatibility rate) of the difference between distances calculated through multidimensional scaling and real distances prior to the calculation. The lower the s-stress value, the better the compatibility of the model and data. S-stress value is expressed according to Ersoz, Bayrak (2008: 95) as > 0.20 incompatible presentation; 0.10 <= 0.20 low compatibility; 0.05 <= 0.10 good compatibility; 0.025 <= 0.05 perfect compatibility; 0.00 <= 0.025 full compatibility. Kruskal's stress formula is considered an appropriate index:

$$s\text{-}stress = \sqrt{\frac{\sum_{k=1}^{m}\left(d_{ij} - \hat{d}_{ij}\right)^2}{\sum_{k=1}^{m} d_{ij}^{2}}} \tag{1}$$

d_{ij} – real distance between two objects

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$\hat{d}_{ij}$ – distance of two objects predicted by the model

m – number of variables

The individual steps are repeated until the stress reaches a small value (within the interval 0.05–0.10).

2) **correlation coefficient squared (RSQ)** of input distances of the distances of objects and distances that are calculated and determined based on coordinates of the individual objects in the perception map. RSQ also demonstrates the level of compatibility between data and the model. A valid result is considered the RSQ >= 0.60.

3 Problem solving

This section shows the analysis of the range and structure of public expenditures by selected COFOG functions for the EU average, followed by the analysis and evaluation of public expenditures in four areas of human development in EU countries with the use of multidimensional scaling in years 2005 and 2014.

3.1 Analysis of the Range of Public Expenditures by Selected COFOG Functions in the EU

For the purposes of the analysis, public expenditures in EU countries in the area of human development by COFOG have been chosen. 1) Health – Medical products, appliances and equipment, outpatient, hospital and public health service, R&D related to health; 2) Recreation, culture and religion – Recreational and sporting, cultural services, broadcasting and publishing services, religious and other community services, R&D; 3) Education – Pre-primary, primary, secondary and tertiary education, post-secondary non-tertiary education, education non-definable by level, subsidiary services to education, R&D; 4) Social protection – Sickness and disability, old age, survivors, family and children, unemployment, housing, R&D, social exclusion (Eurostat, 2016). Public expenditures from the selected area of services in years 2005 and 2014 as the EU28 average are summarised in Tab. 1. The evaluation of the structure of selected sub-categories of public expenditures in % of GDP is provided for 2014 only due to the fact that public expenditures by structure were unavailable for all EU countries in 2005.

Tab. 1 shows that public expenditures allocated on social security in the EU represent one of the most significant areas of public expenditures by functions of government institutions. The indicator of expenditures on social protection in the countries is the share of social expenditures in GDP (social quota). Expenditures on social protection as % of GDP in the EU increased compared to 2005 (by 4.1%), currently amounting to almost 20% of GDP. Expenditures on the old age account for the most marked share (10%). The second highest area from the selected COFOG categories of expenditures is represented by total public expenditures on health. In the EU, these expenditures amounted to 7.2% in 2014, showing a rise by 1.5% compared to 2005. As regards the EU28 average, it is hospital services and outpatient services that account for the highest share of total expenditures of health (3.6% and 2.2%, respectively).

Tab. 1: General government expenditure by selected function in EU (% of GDP)

Health			Social protection		
2005	2014		2005	2014	
5.7 %	7.2 % of GDP, of which:		15.4 %	19.5 % of GDP, of which:	
	- Hospital services	3.6		- Old age	10.3
	- Outpatient services	2.2		- Sickness and disability	2.8
	- Medical products,			- Family and children	1.7
	appliances and equipment	1.0		- Unemployment	1.5
	- Public health services	0.2		- Social exclusion	0.8
				- Housing	0.5
Recreation and culture			Education		
2005	2014		2005	2014	
1.1%	1.3 % of GDP, of which:		5.2%	4.9 % of GDP, of which:	
	- Cultural services	0.5		- Pre-primary and primary	1.5
	- Recreational and			- Secondary	1.9
	sporting services	0.4		- Tertiary	0.8

Source: Eurostat (2016)

Table 1 also demonstrates total public expenditures on education in the EU, mostly related to the amount of generated GDP in percentage terms. They show total expenditures on education, with the EU average reaching approximately 5%. The results clearly show a slight decrease (by 0.3%) of public expenditures on education in 2014, compared to 2005. The explanation may be that these expenditures are related to a long-term economic situation but also to historical development of the individual countries. The highest percentage of total public expenditures on education in the EU is observed in primary and secondary education, in aggregate accounting for approximately 3.4%. The last area of the evaluated expenditures are public expenditures on culture and recreation, which represent approximately 1% of GDP in the EU. Compared to other public expenditures observed, their representation in GDP by COFOG is quite negligible. In the structure of public expenditures on culture and recreation, cultural services and recreational and sporting services account for the largest share in the average of EU countries (0.5% and 0.4% GDP, respectively).

3.2 Analysis of Public Expenditures in the EU Using Multidimensional Scaling

Another area evaluated is the structure of dissimilarities in EU countries by the volume of public expenditures on social protection, health, education, recreation and culture in years 2005 and 2014 by use of multidimensional scaling. The Euclidean Distance Model, computed according to distances of countries to one another, is presented below in a two-dimensional form (k=2). For matrix: Stress 0.04309 shows a perfect compatibility of the model with the input data, and the RSQ = 0.99344 is adequate. Values in the selected categories of public expenditures in EU countries in years 2005 and 2014 in two dimensions is shown in Tab. 2.

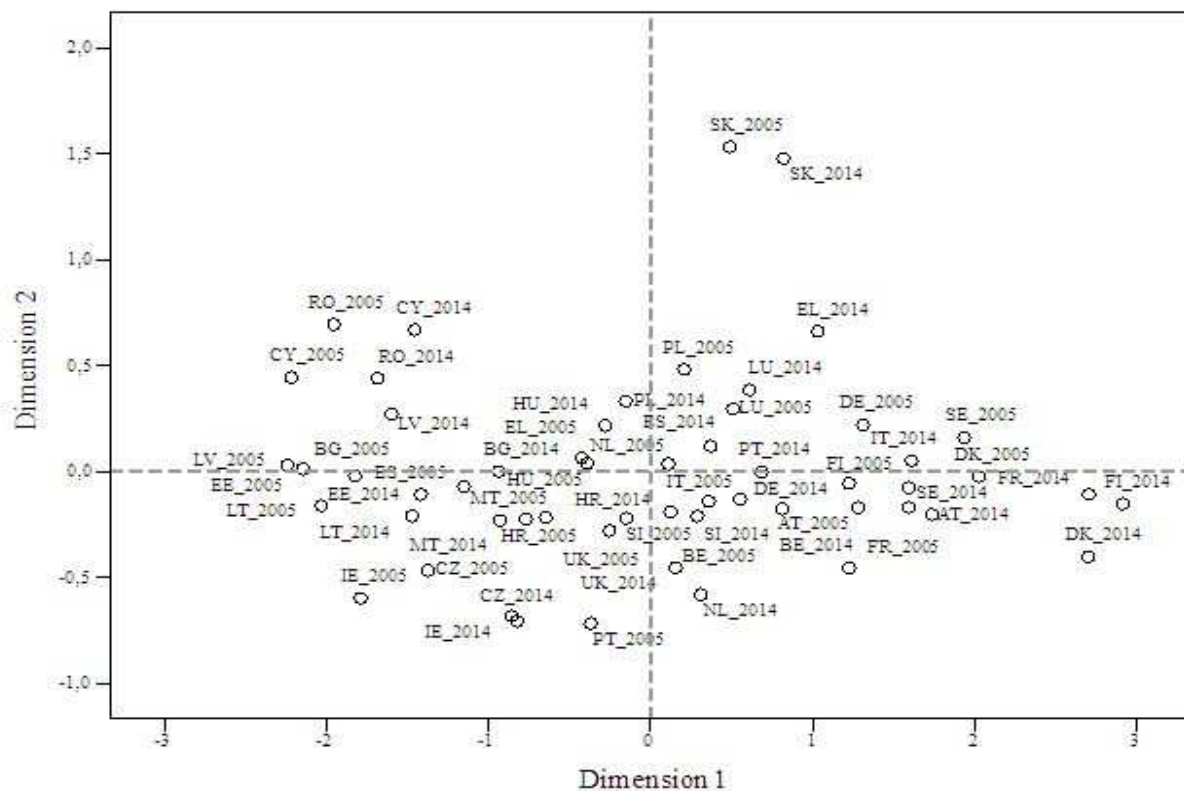*Tab. 2: Values of EU countries by selected public expenditures*

Country	Dimension		Country	Dimension	
	1	2		1	2
BE 2005	0.2897	−0.2108	LT 2005	−2.0306	−0.1610
BE 2014	1.2259	−0.4559	LT 2014	−1.4716	−0.2103
BG 2005	−1.8222	−0.0212	LU 2005	0.5092	0.2948
BG 2014	−0.9354	−0.0006	LU 2014	0.6113	0.3855
CZ 2005	−1.3724	−0.4661	HU 2005	0.1101	0.0352
CZ 2014	−0.2833	−0.7064	HU 2014	−0.2788	0.2172
DK 2005	2.0256	−0.0247	MT 2005	−0.9280	−0.2326
DK 2014	2.7023	−0.4022	MT 2014	−0.7685	−0.2259
DE 2005	1.3123	0.2190	NL 2005	−0.3912	0.0381
DE 2014	0.8133	−0.1755	NL 2014	0.3116	−0.5814
EE 2005	−2.1435	0.0115	AT 2005	1.2824	−0.1713
EE 2014	−1.4170	−0.1088	AT 2014	1.7361	−0.2035
IE 2005	−1.7879	−0.5982	PL 2005	0.2082	0.4813
IE 2014	−0.8571	−0.6823	PL 2014	−0.1533	0.3323
EL2005	−0.4241	0.0652	PT 2005	−0.3685	−0.7167
EL2014	1.0332	0.6609	PT 2014	0.6842	0.0025
ES2005	−1.1514	−0.0720	RO 2005	−1.9531	0.6935
ES2014	0.3712	0.1197	RO 2014	−1.6844	0.4402
FR 2005	1.5957	−0.1695	SI 2005	0.1260	−0.1904
FR 2014	2.7054	−0.1080	SI 2014	0.5516	−0.1306
HR 2005	−0.6449	−0.2167	SK 2005	0.4906	1.5313
HR 2014	−0.1488	−0.2214	SK 2014	0.8201	1.4770
IT 2005	0.3606	−0.1410	FI 2005	1.2263	−0.0558
IT 2014	1.6117	0.0505	FI 2014	2.9136	−0.1526
CY 2005	−2.2156	0.4443	SE 2005	1.9358	0.1599
CY 2014	−1.4538	0.6681	SE 2014	1.5949	−0.0775
LV 2005	−2.2387	0.0309	UK 2005	−0.2525	−0.2795
LV 2014	−1.5979	0.2707	UK 2014	0.1553	−0.4544

A graphic outline of the dissimilarities between EU countries by the volume of the selected public expenditures in two dimensions is provided in perception map (Fig.1). The **first dimension** is dominated by public expenditures on social protection, as opposed to public expenditures on recreation and culture, which are rather low. For this reason,

a thorough analysis will be provided on public expenditures on social protection. The results of the analysis in years 2005 and 2014 in the first dimension have shown a prevailing division of the EU into two clusters. Countries of Central and Eastern Europe which joined the EU after 2004, Baltic states, Ireland and Portugal, are located on the left-hand side of the image (values ranging between –3 and 0). These countries are characterised by a moderate to average volume of public expenditures allocated to social protection. On the other side of the image (values ranging between 0 to 3) are Scandinavian countries, characterised by the largest volume of public expenditures on social protection. Another group comprises EU member states from Western and Southern Europe, with an above-average volume of public expenditures on social protection. The least marked similarity between EU countries in the first dimension equals the largest distances. The least similar EU countries by the volume of expenditures on social protection as % of GDP in 2005 are Estonia (9.7), Lithuania (9.8), Latvia (9.3) and Cyprus (9.7), with the lowest expenditures, and Denmark (22.7) and Sweden (22.5), with the highest expenditures. In 2014, the least similar countries by the volume of general government expenditures on social protection are Romania (11.4), Latvia (11.5), Lithuania (11.5), Cyprus (12.2) and Estonia (11.8), with the narrowest range of public expenditures, and Denmark (24.5), Finland (25.4) and France (24.8), with the highest public expenditures.

Fig. 1: Perception map of EU countries by selected public expenditure categories

The areas dominating the analysis of EU countries through multidimensional scaling in the **second dimension** are public expenditures on health and public expenditures on education, which are less significant. In the second dimension in the positive segment of Fig. 1 (values ranging between 0 and 2) are clustered the EU countries that demonstrated the lowest public expenditures on health and education in 2005 and 2014, namely Slovakia, compared to other EU countries. By contrast, In Portugal the largest volume of public expenditures on education and high expenditures on health in 2005 were observed. Another

cluster comprises Cyprus and Romania, with a volume of public expenditures on health strongly below average in comparison to other countries in both 2005 and 2014. The remaining EU countries evaluated in the second dimension were characterised by an average volume of public expenditures on health in 2005 and 2014 (e.g. Bulgaria, Hungary, Italy, and, in 2014, Portugal), or slightly below average (e.g. LU 2005, DE 2005, HU 2014). In 2014, Denmark, Finland and Belgium, found in the negative part of Figure 1 (ranging between −1 to 0), showed the largest volume of public expenditures on health care and education, and the Netherlands and France, showed a large volume of public expenditures on healthcare and expenditures on education slightly above average. In Fig.1, the longest distance in the second dimension is represented by the least similar countries in the volume of public expenditures on health and education as % of GDP. In 2005, Slovakia and Portugal were among the least similar countries in terms of expenditures on health (1.6% and 7.3%, respectively). In the case of public expenditures on education, Slovakia, with 3.7%, and Portugal, with 7.1%, again belonged to the least similar countries. In 2014, the most marked differences in the volume of public expenditures on health are found in Slovakia (1.9%) and Denmark (8.7%).

These results confirmed differences between EU countries in the volume of public expenditures as % of GDP. Distances between countries in the first dimension mark the most notable differences in public expenditures on social protection. Conversely, differences in public expenditures on recreation and culture failed to be reflected in the distances between EU countries. Distances in the second dimension demonstrate the differences between countries in the volume of public expenditures on healthcare, whilst public expenditures on education were less significant (Fig. 1).

On the basis of the results, the paper will focus on the evaluation of public expenditures and the analysis of their structure. Should one have a closer look at the structure of public expenditures on social protection of least similar EU countries in 2014, it is strongly dominated by general government expenditures on old age. In EU countries with the largest volume of public expenditures on social protection (as % of GDP), expenditures on old age account for approximately 50%, i.e. France (13.7%) and Finland (12.2%), and 30% in Denmark (8.4%). As regards the structure of public expenditures on social protection, expenditures on sickness and disability represent the second highest item, accounting for 5% in Denmark, 4.7% in Finland, and 2.9% in France, followed by expenditures on family and children, which account for 4.8% in Denmark, 3.3% in Finland, and 2.5% in France, and unemployment, accounting for 3.1% in Denmark, 2.5% in Finland, and 2.0% in France. By contrast, in countries with the smallest volume of public expenditures on social protection (as % of GDP), expenditures on old age represent 9% in Romania, 7.4% in Latvia, 6.7% in Estonia, 6.2% in Lithuania, and 5.8% in Cyprus. Expenditures on sickness and disability account for 2.8% in Lithuania, 2% in Estonia, 1.9% in Latvia, 0.8% in Romania and 0.5% in Cyprus, whilst expenditures on family and children 2.3% in Cyprus, 1.8% in Estonia, 1% in Lithuania, 0.9% in Latvia and 0.8% in Romania.

With respect to expenditures on health and education as % of GDP in 2014, the least similar countries were Slovakia, with the lowest expenditures on health (1.9%, of which hospital services comprised 1.6% and outpatient services 0.1%) and education (4.1%, of which 1.6% on pre-primary and primary education, 0.7% on secondary education, and 0.7% on tertiary education). On the other hand, EU countries with the largest volume of public expenditures on health and education are Denmark (health 8.7%, of which 6.2% hospital services and 1.2% outpatient services, education 7.2%), Finland (health 8.3%,

of which 3.5% hospital services and 3.8% outpatient services, education 6.4%), Belgium (health 8.1%, of which 4% hospital services and 2.9% outpatient services, education 6.3%), and the Netherlands (health 8.1%, of which 4.3% hospital services and 2.1% outpatient services, education 5.4%) Regarding a detailed structure of public expenditures on education, the largest share of pre-primary and primary education is observed in DK (3.2%), BE (2.1%), NL (1.7%) and FI (1.3%), secondary education DK (1.9%), BE (2.5%), NL (2.1%) and (FI 2.7%) and tertiary education DK (1.7%), BE (0.9%), NL (1.4%) and FI (1.9%).

4 Discussion

The evaluation of public expenditures in human development (social protection, health, education, recreation and culture) in EU countries in years 2005 and 2014 clearly shows a tendency of growth in social protection and health**.** Wagner explained the growth of public expenditures on education, recreation and culture, health care and social welfare in connection with pension elasticity of the demand, which is the reason why growing GDP goes hand in hand with increasing public expenditures on these services to a larger extent than a mere proportional basis, which explains the growing share of government expenditures to GDP (Wagner's law), (Brown, Jackson, 1990; Szarowská, 2012).

The present results also show that from the evaluated public expenditures, the most represented in the EU are expenditures on social protection (approximately 20% of GDP in 2014), which saw a rise by 4.1%, and on health (rise by 1.5%, amounting to approximately 7% of GDP (European Commission, 2012; Eurostat, 2016). Based on the analysis of public expenditures in EU countries, it may be said that Scandinavian countries allocate approximately 40% of GDP to public expenditures on human development, which account for the double of the volume of countries with the lowest volume of public expenditures on this area, (20-24%). Nevertheless, differences between EU countries can be seen not only in the range but also the structure of allocated public expenditures, influenced mainly by economic, political and demographic factors. Such differences can be explained by financing of the individual areas of public sector, which is derived from the respective public policies, government priorities, social structure, historical traditions and economic level of the particular country (Pestieau, 2006). Finding an optimal size of public sector is quite difficult and is dependent mainly upon political relations within the given country. As Peková et al. (2012) state, as regards financing, an increased share of public budgets can be promoted to finance the concrete area of public services (role of public sector), or a reverse opinion to engage only the involved consumers in paying for the production costs of specific public services.

The results of the analysis of EU countries according to public expenditures in human development in years 2005 and 2014 using multidimensional scaling (Fig. 1) showed that distances between countries in the first dimension reflect the most notable differences according to the volume of public expenditures on social protection. These differences are connected not only with the economic level of the given country, but mainly with various levels of generosity and redistribution of social-protection systems. Distances in the second dimension primarily proved differences between countries by the volume of public expenditures on health. These differences can be explained by different forms of financing health as either the system of national health service is implemented, based on public financing from taxes through state budget, where a certain volume of services and majority of health establishments is guaranteed by the state, or a system based on general health

insurance, where healthcare is paid from public (mandatory) health insurance. In the context of Slovakia, this issue is dealt with by, for instance (Šoltés, Gavurová, 2014). Results of the evaluation of public expenditures on health and social protection (in % GDP) in EU countries are also demonstrated in research by Halásková, Halásková (2014).

Approaches to financing of the volume and structure of public expenditures by functions represent one of multiple views on the evaluation of public sector. Issues such as the quality of allocated public expenditures or the evaluation of the effectiveness of public sector in selected areas using the Cost-Benefit Analysis or Data Envelopment Analysis **(**DEA) may be used as topics for further research**.**

Conclusion

The role of public sector is significant in those areas where the state aims to procure public demands, mainly in social needs and human development. Finding optimal size of the public sector is a challenging task and is dependent mainly on political cooperation in a given country. The volume and structure of public expenditures in EU countries is connected not only with economic level, but also with political, demographic and socio-cultural factors. Another discussed issue is the effective use of public expenditures connected with the provision of public services. Analysis of public expenditures in EU countries showed that public expenditures on social protection represent the largest proportion, amounting to an average of approximately 20% as % of GDP, in EU (28). Public expenditures on health account for approximately 7%, on education 5%, and on culture and recreation 1%. Based on the evaluation of public expenditures (social protection, health, education, culture, and recreation) by utilising multidimensional scaling in years 2005 and 2014, both similarities and dissimilarities in public expenditures in % of GDP have been proved in terms of the EU countries. The results showed that Scandinavian countries and France are among the countries with the best outcome (most similar), with highest public expenditures in human development. Conversely, Baltic states, Cyprus and Romania (most similar) comprise the second group of countries, with the lowest public expenditures (% of GDP). These two sets of countries are least similar in the volume as well as structure of allocated public expenditures in terms of the observed areas of public sector. The particular structure and volume of public expenditures in the individual countries is also associated the objectives and priorities of public policies.

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