Comparison of Public Expenditure for Agriculture in Selected EU Countries

Miriam Pietriková, Radomíra Hornyák Gregáňová
Slovak Agriculture University, Faculty of Economics and Management, Institute of Statistics, Operations Research and Mathematics, Tr. A. Hlinku 2, 949 01 Nitra, e-mail: miriam.pietrikova@uniag.sk, radomira.greganova@uniag.sk

DOI: https://doi.org/10.15414/isd2022.s1.12

Abstract
A specific part of each country’s economy is the public sector, through which public services are provided. The structure of government expenditures in individual countries is different and the method of allocating funds to individual areas is also different, which is conditioned by a number of factors. The aim of the paper is to compare public expenditure related to agriculture in selected EU countries. The surveyed government expenditures are broken down according to the international functional classification COFOG. To compare the development of expenditures, whether total or individual components, the basic characteristics of time series are used. Based on the above analyses, we can state that the percentage of Total general government expenditure (COFOG) on gross domestic product in Slovakia (18.33%) has long been below the EU-27 average (19.10%). Similarly, the ratio expenditure of group 04.2 Agriculture, forestry, fishing and hunting (COFOG) in 04 Economic affairs in Slovakia 5.24% had a lower level then average ratio countries EU-27 (5.95%).

Keywords: agriculture, public expenditures, COFOG, time series

JEL Classification: E01, H50, Q10

1. Introduction
According to Sivák (2007), public expenditures are a macroeconomic category that also affects other macroeconomic indicators. The existence of public expenditure is related to the nature and functioning of the public sector and its relationship to the private and non-profit sectors. Hamerníková, Maaytová et al. (2007) define public expenditures as the flow of funds that are allocated within the public budget system for the implementation of the state's fiscal functions on the principle of irreversibility and non-equivalence. There is no uniform definition of public expenditure, as the definitions used are often based on the current need, or the analytical view of the individual dealing with the issue. Paulík et al. (2012) stated in their publications the reasons for the growth of public expenditures, further emphasizing that governments' approaches to the extent of public expenditures are influenced by the ruling political establishment. Socially oriented governments allocate a large part of financial resources to areas that provide social security for the population, while conservative governments, in turn, reduce public spending and emphasize greater individual responsibility of each individual. Papcunová et al. (2021) adds that the expenditures which the municipalities incur to ensure, in particular, the delegated competences exceed the incomes which the municipalities receive from the State in the form of subsidies. Municipalities finance this difference from their own resources, from current expenditures in their budgets. Potrafke (2006) examined how political factors affect the allocation of public expenditure, specifically in OECD countries in the period 1990-2004. The results show that left-wing governments set different priorities for public spending than right-wing governments. Left-wing governments spend more on environmental...
protection, recreation, culture and religion, and education. Vavrek et al. (2020), however adds that although policy cycles affect public expenditures at the state level, the increase in local government expenditures is not always linked to the policy cycle. In his publication, Freysson (2011) analyzed the main trends in public government expenditure, especially in terms of function (purpose), i.e. the socio-economic goal of the relevant government expenditure. The author analyzed expenditures in the period 2005-2010 in the 27 EU member states. The results show that in 2010, after the financial crisis, public spending in the EU fell only slightly in absolute terms. A record increase in expenditure was recorded between 2007 and 2009. Government expenditure gradually declined in 2003-2007, followed by an increase in 2008, and increased even more sharply in 2009. The trend is also similar in the euro area countries. Bielik et al. (2014) identify the relationship between government expenditures development on one side, and agrarian sector performance (the value of production) in selected member states on the other. The conducted analysis provides a basic overview of the development of government expenditures value development on one side and agricultural sector and its performance on the other, in the period 2001 – 2011. The aim is to identify the level of dependency and sensitivity existing between public expenditures and the development of the agricultural sector structure and performance (gross agricultural production value). Szarowská (2013) analyzed public expenditure based on COFOG in 15 member countries in the period 1995-2010. On average, total public expenditures were 48% of GDP during the period under review. Two thirds of this expenditures were spent on social security, health and general public services. A proportion of the expenditures also covered education and the economy. The remaining expenditure related to defense, public order and security, environmental protection, housing and culture and represented on average only 12.5% of total expenditures. Based on the results of the study, Lupu et al. (2018) show that expenditures on education and health care have a positive impact on the economy, while expenditures on defense, economic affairs, general public services, and social welfare have a negative impact. Leitner and Stehrer (2016) focused their analysis on the development of the public sector in the EU Member States in the period 1995-2013. They examined the development of social public spending, which the European Commission identified as important for social cohesion and growth in the EU in the Europe 2020 program. These are public spending on health, education and social security. They found that in terms of COFOG distribution, there are large differences in the public expenditures levels between countries. Alataş and Sari (2021) empirically investigated convergence in per capita public expenditures and its sub-categories classified according to the classification of the functions of government (COFOG) across 81 provinces of Turkey for the period between 2004 and 2018.

2. Data and Methods

The data analyzed in this paper are obtained from publicly available Eurostat databases. The comparability of data for individual countries is ensured, as their content is clearly defined in the ESA 2010 system of national accounts. The functional breakdown is done according to the United Nations Classification of the Functions of Government (COFOG) (SO of SR, 2016). Developed by the OECD classifies government expenditure data from the System of National Accounts by the purpose for which the funds are used. (OECD, 2021) The subject of analyzes was the examined share of total public expenditure in GDP as a basic indicator both in individual countries and in the EU-27. Subsequently, the analysis of the share of expenditures defined in COFOG in division 04 Economic affairs in Total government expenditures was the subject of analyzes. Lastly, the development of the share of the expenditure group was examined group 04.2 Agriculture, forestry, fishing and hunting in division 04 Economic
affairs. The values of individual indicators in the time horizon of 2011-2020 were obtained from the mentioned sources. Data on the share of government expenditure in GDP in the observed time in individual European countries and also in total for the 27 countries of the European Union (EU 27) were used as the basic data for the analysis. Standard descriptive characteristics of the time evolution analysis were used to assess the development of the values of the monitored indicators. (Pacáková, 2009) The analyzes were carried out on the basis of the calculation of year-on-year changes in the values of individual indicators individually in all European countries and together for the EU-27 countries. The article describes in more detail and subsequently they are also the subject of a graphical representation of the development trends for the group of EU-27 countries, Slovakia and for comparison countries reaching the minimum (maximum) resp. with high volatility of the values of the surveyed indicators.

3. Results and Discussion

The share of Total government expenditure in GDP, as one of the basic macroeconomic indicators, generally had a growing trend in 2011-2020, increasing by 0.39% year on year in the EU-27 country. In most countries, this share had an oscillating trend at the EU-27 average (19.10%) (Figure 1) over the period under review, with the exception of Ireland, which, in addition to being the country with the lowest share of government spending on GDP, so for the entire period under review, their average year-on-year decline of up to 5.18% was found. The average year-on-year decrease in the values of the surveyed indicator was found in both the original and the new member states. Countries with a year-on-year decline in the share included Denmark and Cyprus (-0.8%), respectively. The Netherlands and Slovenia (-0.3%). On the other hand, the highest average year-on-year increase in the share of government expenditure in GDP was recorded in the new EU member states Romania (2.9%) and Slovakia (1.9%).

In accordance with the international classification COFOG, government expenditures are further divided into 10 divisions and subsequently into 69 groups. The subject of further
research is the share of expenditures included in division 04 of the Economic affairs in total public expenditures in EU countries. Figure 2 shows the average value of this share in the observed period for the mentioned countries. The average share of Economic affairs expenditures in total government expenditures was 9.63% for the EU-27, with eight of the thirteen newly admitted countries reaching the highest values within the countries under comparison the very development of this indicator for the EU-27 countries as a whole is presented in Figure 3 in comparison with Croatia as the economy with the highest value, which ranges from 13.85% (2017) to 20.71% (2020) in the observed period, and Denmark as the country with the lowest long-term share of Economic affairs in total government expenditure, which ranges from 6.04% (2011) by 9.53% (2020). The graph also shows the development of the indicator in the conditions of Slovakia, which fluctuates in values between 11.05% (2013) and 17.00% (2015). (Figure 3)

![Figure 2: Development of the share of division 04 Economic affairs in Total government expenditure (COFOG) in Europe countries](Zdroj: Eurostat; autor)
Within economic affairs, expenditures in the field of agriculture form a separate group 04.2 Agriculture, forestry, fishing and hunting. In the period under review, the share of agricultural expenditure in economic expenditure ranges from 0.89% (Belgium, 2013) to 28.74% (Cyprus, 2016) (Figure 4). The long-term average share in EU countries is 5.95%. The lowest share of expenditure in the field of agriculture in the whole examined period is characteristic for Belgium with an average share (1.17%) and Sweden, the Netherlands with a share of 3.27% resp. 3.5%. The highest share in the whole observed period was recorded in Lithuania (19.23%). The stated share of expenditures in Slovakia ranged from 4.02% (2018) to 7.66% (2013), on average this share reached 5.24%. Figure 4 shows the development of the share of expenditure in group 04.2 agriculture in the expenditure included in division 04 Economic affairs for Cyprus, which is characterized by the highest variability (398.76%), Lithuania (152.58%) with the sharpest decline and Belgium, which has the lowest and most stable share of this expenditure (average 1.17%; volatility 1.02%).

Figure 3: Development of the share of 04 Economic affairs in Total government expenditure (COFOG) in selected Europe countries

Zdroj: Eurostat; autor
As already mentioned, the average share of expenditures in group 04.2 Agriculture, forestry, fishing and hunting in 04 Economic affairs in the conditions of Slovakia was monitored at the level of 5.23%, which is less than the EU average (5.95%). This share is even the 7th lowest share within the EU countries and lower than the newly admitted countries. A lower share, which is a long-term trend, was found in Belgium (1.17%), Sweden (3.27%), the Netherlands (3.5%), France (4.2%) and Denmark (4.99%), with the exception of Greece (3.6%), where it has a growing trend. The share of researched expenditures increased from 2.36% (2011) to more than double 4.83% (2020). In addition to the average value of this share, its volatility is also important. For Slovakia, the variability of this indicator, measured by the ratio of the standard deviation and the average, reaches the level of 22.90%, which is the tenth highest value within all countries of the European Union. This level of variability is twice as high as the variability in other V-4 countries, reaching 11.13% in the Czech Republic, 11.47% in Hungary and 14.20% in Poland.

3. Conclusion

Based on the above analyzes, we can state that the percentage of Total general government expenditure (COFOG) on gross domestic product in Slovakia (18.33%) has been long time below the EU-27 average (19.10%) and similarly the percentage expandures of group 04.2 Agriculture, forestry, fishing and hunting in expandures division 04 Economic affairs (COFOG). In addition to the above, we also consider the finding that the variability of this indicator is the highest in Slovakia within the V4 countries and is the tenth highest in the EU-27 countries. The main conclusion of this survey is that the percentage of expansions of the group 04.2 Agriculture, forestry, fishing and hunting in the expansions division 04 Economic affairs in Slovakia is the lowest within the V-4 countries and at the same time the variability of the values of this indicator is the highest in the V-4 countries.
Acknowledgements

This article presents an introduction to the issues that are addressed in more detail in the project Analysis of the Development of Public Expenditure in the European Regions (GA FEM).

References


