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DIFFERENCES IN AGRICULTURAL SUPPORT BETWEEN COUNTRIES – THE OECD MEASUREMENT

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Countries provide different levels of support from public expenditures to farmers. Some countries subsidise their agricultural producers more significantly. On the other hand, other group of countries provides less support to their producers from public resources. Different international organisations and institutions provide their own indicators as in the case of the Oranisation for Economic Co-operation and Development (OECD). The OECD provides a comprehensive framework to measure the level of support and to identify its structure. This measurement provides a comparable review of support to agriculture from public budgets and helps to evaluate the transfers from taxpayers to producers or consumers. The aim of our work was to present this measurement framework, the differences in support between OECD and some non-OECD countries and to see if there is an evidence of development in level and/or in structure of supports in agriculture in the 2016, 2017 and 2018´s editions of OECD publications taken into consideration. The comparative analysis shows that not only the level, but the composition of support differes from country to country.

Keywords: agricultural policy, differences in agricultural support, policy monitoring and evaluation, OECD support indicators, producer support estimate

The Organisation for Economic Co-operation and Development (OECD) is an inter-governmental organisation which provides a multilateral forum to discuss, develop and reform economic and social policies. It is a place to address common challenges of member countries. The OECD´s main mission is to provide advise and help countries to respond to new developments and challenges of globalisation in line with its main motto: "Better Policies for Better Lives". The Organisation provides a setting to compare national policies, seek solutions to common concerns, identify good practice and promote policies for sustainable economic growth and employment and a rising standard of living.

From 1986 OECD is doing a comprehensive and comparable review of agricultural support provided from public budgets to help the agricultural sector to be more competitive. In 1986 OECD published a complex system of indicators to measure the transfers from taxpayers to producers or consumers. The OECD indicators were created in order to monitor and evaluate developments in agricultural policies, to establish a common base for policy dialogue among countries, and to provide economic data to assess the effectiveness and efficiency of policies (OECD, 2016a). Since 1986, when the indicators work was mandated by OECD Ministers, the calculations have been done for an increasing number of countries.

Based on the OECD measurement, the developments in level and changes in structure of the agricultural support from mid-1980s to present days are possible to be identified. Other important comparisons accross OECD and non-OECD countries of agricultural policies are possible, as well as the detailed analysis of recommendations which are formulated by the Organisation to help the agricultural sector to be more competitive. However, the aim of this paper is to explain the principles of the measurement and to show the differences across the whole range of OECD and non-OECD countries in providing support from public expenditures to farmers.

A relatively limited number of research papers dealing with the OECD measurement is available. Exept of the whole range of OECD papers and publications with the aim to bring the comprehensive system of indicators up to date, Siudek and Zawojska published in 2012 the results of their empirical research covering the investigation period from 1986 to 2009. In 2007, Bielik et al. conducted a comparative analysis of the OECD and EU agricultural support policies. Finally, there is a series of academic polemics or critical exchanges of views on limitations of the OECD measurement between French and Dutch economists on the one hand and the OECD represented by Stefan Tangermann on the other hand, trying to argue that correct interpretation of the indicators is needed more than a revision of the concept used by the OECD (Tangermann, 2005). The last revision of the set of indicators was done in 2016. This is the reason why we make references mainly to the 2016 version of the so called PSE Manual. In 2016 the revision was focused especially on the GSSE indicator.

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It is important to mention that except of the OECD, also other international organisations and institutions deal with their own indicators (e.g. the United Nations Food and Agriculture Organisation – FAO, and the World Bank). However, the OECD PSE/CSE concept has provided a solid resource of internationally comparable information on support levels in agriculture for over the last more than 30 years.

Material and methods

In general the method that we used in our paper is the comparison of data calculated by the OECD as result of data entered in the PSE/CSE indicator calculations. A comprehensive review of recent available literature, covering a relatively limited number of materials dealing with the OECD measurement and original OECD publications formed the basis of our empirical research.

Over the examined period, the number of covered countries by the OECD measurement differs and it has a rising tendency. We explained below both the timeframe as well as the number of covered countries. It is almost impossible to present in this simple paper the complete picture of possibilities how to use this system of indicators and its developments accross time and countries or regions to evaluate trends in agricultural policies and level and structure of supports applied by different countries. Despite this, countries on which we put our emphasis are the EU member countries or more precisely, the EU as a single economic area.

The Slovak Republic as a part of the European Union from 2004 is in the OECD agricultural monitoring and evaluation publications covered under the EU chapter. For this reason, the EU members are shown in one single aggregated EU chapter.

The OECD uses a comprehensive system for measuring and classifying support to agriculture – the Producer Support Estimate (PSE) and other related indicators, CSE – Consumer Suppor Estimate, TSE – Total Support Estimate and GSSE – General Services Support Estimate (OECD, 2016b). They provide insight into the increasingly complex nature of agricultural policy and serve as a basis for OECD´s Agricultural Policy Monitoring and Evaluation publication series (OECD, 2017). The OECD indicators of support measure monetary transfers to individual producers (PSE), consumers (CSE) and to producers collectively (GSSE). In PSE and GSSE the focus is on primary agriculture.

In our paper we use examples in particular from the PSE indicator and its percentage. A % PSE e.g. of 20% means that the estimated value of transfers to individual producers from consumers and taxpayers is equivalent to 20% of gross farm receipts (OECD, 2011). However the whole set of indicators shows the best the complete scale of subsidising agriculture from public resources. Detailed data and documentation for calculations of supports are available in OECD PSE/CSE database on www.oecd.org/agriculture/PSE.

We decided to make a representative choice and use the time framework which is based on data published in 2018, 2017 and 2016 versions of the OECD Monitoring and Evaluation of Agricultural Policies publication, which cover data from the years 2013–2017. More than 50 countries (51 in 2018, 52 in 2017 and 43 in 2016) are covered in last three editions of this publication series of OECD reports that monitor and evaluate agricultural policies across countries. Countries covered in our research are mainly OECD member countries[1], but to better demonstrate the differences in support across countries some non-OECD countries are taken into consideration as well[2]. In total countries covered in these three last editions of the Monitoring report account for about two-thirds of global agricultural value added.

Those indicators do not measure the impact of policies but they can be used as inputs in different models. PSE calculations are used e.g. in the Policy Evaluation Model (PEM) – a partial equilibrium model of the agricultural sector developed by the OECD. The model has been designed to translate PSE data into economic impacts of policies on markets and producers. It is the main tool to assess the impact of policy reforms (Brooks, Dyer and Taylor, 2008). OECD uses this economic model to better understand the development and evaluation of effectiveness of agricultural policies and their impact on agro-food production, trade, incomes of farmers, environment and others (OECD, 2016b). This model is used to estimate e.g. the impact of EU CAP reforms on production, trade and land use as well.

From the very begining of evaluation and monitoring work, based on data collected and PSE/CSE calculations, OECD provides a range of findings and recommendations for member as well as non-member countries.

Results and discussion

As it is evident also from the Table 1 below, the support to agricultural sector varies widely across the OECD countries. At the one extreme, countries like Norway, Japan, South Korea, Switzerland or Iceland subsidise their agricultural producers more significantly, close to or above 50% of gross farm receipts. On the other hand, countries like New Zealand, Australia, South Africa, Brazil and Chile provide less support to their producers from public resources, with the % PSEs below or around 5% in 2014–2016. The average of OECD in total is approximately 18% over the period analysed.

Government transfers and subsidies in agriculture have a long history and have evolved significantly. Meuwissen considers that the motivation for state intervention

1 The OECD member countries in 2018 were 35: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. In 2017 OECD had 35 members as well. In 2016 there were 34 OECD members (without Lithuania).

2 The non-member countries analysed in edition 2018 were: Brazil, China, Colombia, Costa Rica, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Vietnam. In 2017 OECD analysed Brazil, China, Colombia, Costa Rica, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Vietnam as non-OECD members. In 2016: Brazil, China, Colombia, Indonesia, Kazakhstan, Russian Federation, South Africa, Ukraine and Vietnam.

Table 1 Producer Support Estimate by country, Agricultural Policy Monitoring and Evalutation, editions 2018, 2017 and 2016
Percentage of gross farm receipts in years 2013–2017

Country	% PSE (edition 2018 – years 2015–2017)	% PSE (edition 2017 – years 2014–2016)	% PSE (edition 2016 – years 2013–2015)
Ukraine	-7.7	-8.6	-6.3
Vietnam	-0.9	-2.5	0.6
New Zealand	0.9	0.8	0.7
Australia	1.7	1.9	1.6
Chile	2.6	3.0	3.2
South Africa	2.7	3.2	3.1
Brazil	2.7	3.8	3.1
Kazakhstan	5.5	5.0	12.5
Canada	9.3	9.3	9.7
United States	9.6	9.5	8.8
Mexico	8.8	9.8	10.2
Costa Rica	7.8	10.0	not covered
Russian Federation[1]	13.3	13.9	14.6
China	15.5	14.9	20.1
Colombia	13.1	15.5	16.6
Israel	17.3	15.7	9.7
European Union[2]	19.3	19.6	19.0
Philippines	26.1	24.5	not covered
Indonesia[3]	not covered	24.9	24.6
Turkey	25.3	26.5	20.9
Japan	46.0	47.0	48.2
South Korea	52.3	49.3	49.7
Iceland	57.6	55.5	49.1
Switzerland	56.0	57.7	55.7
Norway	57.3	59.7	59.7
OECD average[4]	18.0	18.0	17.0

Sources: OECD (2018, 2017, 2016), Producer and Consumer Support Estimates, OECD Agriculture statistics (database). dx.doi.org/10.1787/agr-pcse-data-en
Notes: 1 – for Russia, the used data in edition 2016 is from 2012–2014: unweighted avareges; 2 – EU28; 3 – for Indonesia, the used data in edition 2017 is from 2013–2015; 4 – only OECD member countries covered (35 in edition 2018, 35 in edition 2017 and 34 in edition 2016); does not include the non-OECD EU member states

in agriculture and agricultural markets is various, but one of the major objectives has been to stabilise farm income (Bojnec and Fertő, 2019). The distinction how countries provide the support to farmers is at least as important as the level of the support. As Czyzewski and Smedzik-Ambrozy (2017) explain for the case of the EU, the productivity of resources in agriculture is affected not only by the total amounts of subsidies, but by their structure as well. Governments have a large portfolio of measures at their disposal: they can provide payments on the basis of farm output area, animal numbers or couple the payments to specific production practices, for example to achieve sustainable development goals or environmental objectives. The comparative analysis shows that not only the level, but the composition of support differs from country to country as well.

In most countries, the majority of support continues to be provided through measures with the highest distortive potential (OECD, 2018). One of the potentially most distorting measures considered by the Organisation as one of the most harmful for the agricultural production and trade, is the market price support (MPS) which is continuosly widely used in several OECD and non-OECD countries. Depending on the exact policy mix, this type of support tends to have negative impacts on the environment as it gives additional incentives to expand and intensify land use (OECD, 2017). In many OECD countries – as well as in most emerging economies – this type of support is still the largest

part of supports to producers. The reason why this support is still so popular is that it does not affect public budgets, as the support is paid by consumers of some protected products. In the whole OECD area, the MPS was around 45% of the PSE in 2014–2016. In comparison, the MPS is at least 80% in Israel, Japan and Turkey and more than 90% of the PSE in South Korea.

The negative impact of this approach is known – such policies promote trade friction, distort incentives, and in many cases have proven as ineffective at reaching their goals. Many OECD countries have put in place reforms to target and deliver better their supports. Progress can be seen in countries that provide a more significant level of support to their agricultural sector as well as those who have historically subsidised their agriculture less (Martini, 2011).

Less-dirtorting forms of supports are provided e.g. by Australia, Brazil, Chile, Mexico, the European Union and the United States. These forms of support include payments based on other inputs or payments based on animal numbers, farm receipts or farm income. These instruments are typical mainly for the European Union (64% PSE in 2014–2016) or the United States (45% PSE), among others.

Other significant trend is not to couple payments with production decisions. This is typical for the EU, where payments based on current area or animal numbers have been cut in favour of direct payments based on non-current criteria without production requirements (OECD, 2017).

In some countries, payments are increasingly used to be conditional and to encourage producers to adopt specific practices to improve environmental performance of farming or to assure animal welfare measures. Payments may also be linked to overcome agri-environmental constraints or to programmes which farmers can adopt on a voluntary basis. These approaches are more reflecting the growing importance to face societal concerns and expectations, such as maintenance of agricultural landscapes or biodiversity.

For example, over time, the Common Agricultural Policy of the EU has developed a range of support measures that address environmental constraints in agriculture. Most direct payments in the EU are conditional on meeting the cross-compliance goals. As well as some of payments from the EU Rural Development Programme are provided as compensations to farmers who fulfill more stringent conditions as cross-compliace standards. These include the agri-environmental payments and organic farming payments, or Nature 2000 and Water Framework directive payments which are also associated with compulsory environmental requirements. Other more current example of measure adopted at the EU level is the Greening, introduced into CAP in 2014–2020. A recent OECD analysis shows that the environmental components in the CAP 2014–2020 may have a positive, if limited, impact on environmental outcomes (OECD, 2017).

The level of the % PSE achieved by the EU is approximately 18%. From all analysed reports, as well as from the OECD PSE/CSE database across time comparison, it is visible, that the EU has gradually reduced its support to agriculture since the mid-1990s. New instruments have gained weight and price distortions have been significantly reduced. At the same time, in the EU, more payments have to fulfill environmental requirements.

Few recommendations are formulated by the OECD in the framework of the EU agricultural policy developments assessment. After the end of milk quota in 2015, and the sugar quota in 2017, wich are considered by OECD as important steps away from production and trade distortion, further steps in other sectors remain to be done. However, about 50% of support to producers is conditional on mandatory environmental constraints, the efficiency of the environmental measures should be assessed in the future. Amendments of the CAP should focus on offering European farmers a levelled playing field, deepening market orientation and better targeting support to improve the long-term productivity, sustainability and efficiency of the sector. The allocation of a greater share of the budget to research and innovation programmes under Horizon 2020 is a move in the right direction (OECD, 2017).

Substantial variability between countries during the examined period occurred. In accordance with the Table 1, some countries provide to farmers smaller and some of them more significant support in terms of annual PSE percentage. The taxation of producers affects negatively the PSE in some countries (e.g. Ukraine). The empirical results from regression models of Siudek and Zawojska (2012) reveal, among other, that when countries are becoming richer, the percentage of the PSE is generally decreasing.

As it is shown in the Table 1, European countries are comprised in the single EU-chapter dealing with aggregated data of individual countries. For this reason it is not possible to formulate recommendations for individual EU members and to compare them among themselves. This applies also for the case of Slovakia. It is due to the fact, as Pokrivčák and Ciaian (2004) stated as well, that after its accession to the EU Slovakia lost its independent national agricultural policy. The EU agricultural sector is currently highly subsidised. Examining the effects of the Common Agricultural Policy of the EU is therefore becoming increasingly important (Zbranek and Chrastinová, 2018).

Conclusions

Out of the years 2016, 2017 and 2018´s editions of the OECD Monitoring and evaluation publication, it is evident that public policy support continues to be important for the agricultural sectors of some countries and countries provide different levels of support from public expenditures to farmers. The support to agricultural sector varies widely across the OECD and non-OECD countries.

The comparative analysis shows that not only the level, but the composition of support differs from country to country. The OECD recommends having more ambitions and move from trade distorting policies towards policies more related to environmental protection and sustainable use of natural resources. The burden of agricultural support on countries´ economies has generally declined over the time, but public support is still important for the agricultural sectors of some countries (OECD, 2017).

The continued strong use of market price support is evident from PSE/CSE calculations in many countries. The distortions created by these policies can have significant negative impacts on markets (OECD, 2017). OECD recommends that the countries review their agricultural policy packages with the aim to better reach the policy

objectives and to ensure more coherent approach with economy-wide policies and better deal with market or climate risks.

Over the time, the importance to provide support to the agricultural sector from public expenditures has changed. In most OECD countries, producer support has declined from mid-1990s. However, producer support has increased since 1990s in some emerging countries. Another significant finding is evident from these OECD reports as well: support to producers in the OECD area and emerging economies converge (OECD, 2017).

The PSE indicator and its percentage show how OECD and different non-OECD countries support their agricultural sectors from public resources. However, in order to lead to conclusions with more considerable results we have to take into consideration the whole range of OECD indicators which enter the PEM model to measure supports in agriculture from the OECD PSE/CSE system and data. This effort could be a continuation of our research work in the future.

As Slovakia is currently covered under the aggregated EU chapter in the OECD agricultural monitoring and evaluation publications, this could be considered as one of the limitations of the OECD measurement. The identification of possible other limitations could be the subject of our future research as well.

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