

*Final Workshop of the Pilot Study on Agricultural Policy Monitoring
in Six post-Soviet Countries:*

Agricultural policy indicators in the regional context: selected countries of Southeastern Europe and post-Soviet countries

Emil Erjavec

University of Ljubljana, Biotechnical Faculty

Tina Volk, Miroslav Rednak, Maja Kožar

Agricultural Institute of Slovenia

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Presentation outline

- **Motivation for agricultural policy monitoring and evaluation**
- **OECD PSE/CSE (OECD, 2018)** - core methodology for monitoring and evaluation of agricultural policies
- **Adaptations of OECD approach relevant for the FAO pilot study countries** (Armenia - AM, Azerbaijan -AZ, Belarus - BY, Georgia - GE, Kyrgyzstan - KY, Moldova – MD):
 - **MAFAP (FAO) methodology**; developed for low- and middle-income countries (LMIC)
 - **AGRICISTRATE (TTP) methodology**; used also for AM, AZ, BY, GE, MD
 - **AMPC methodology**; adapted for the analysis of agr. policies in the EU approximation process in Western Balkan countries (Southeastern Europe)
- **Key results of these approaches**; focus on APMC
- **Conclusions**

Why monitor and measure agricultural policy?

OECD (The PSE Manual, 2019):

- **To monitor and evaluate developments of agricultural policies** – in terms of specific (country) reform efforts or progress towards trade and other international commitments (e.g. OECD, WTO); to help better understand how and in what form agricultural sector is supported
- **To establish common (data) base for policy dialogue among countries** (consistent and comparable methods)
- **To establish common indicator database for further research** on policy impacts (provide economic data for modelling the effectiveness and efficiency of policies)

OECD PSE/CSE methodology - background

- **Core methodology for monitoring and evaluation of agricultural policies;** specifically the **measurement of support to agriculture**
- **OECD indicators widely referred to; calculated for OECD** (mostly high-income countries) and **growing number of non-OECD countries** (e.g. China, Russian Fed., Kazakhstan, Turkey, Ukraine); mandated by OECD ministers in 1987 (OECD PSE Manual, 2016)
- **OECD also member of Ag Incentives Consortium** (International Organisations Consortium for Measuring the Policy Environment for Agriculture)

Main OECD agricultural support indicators (PSE Manual, 2016):

- **Producer Support Estimate (PSE) indicator** - annual monetary value of gross transfers from consumers and taxpayers to agric. producers (measured at farm gate), arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income
- **Consumer Support Estimate (CSE)** - annual monetary value of gross transfers to consumers of agric. commodities (measured at farm gate)

OECD PSE/CSE methodology

Main OECD agricultural support indicators (PSE Manual, 2016) - continued:

- **General Services Support Estimate (GSSE)** - annual monetary value of gross transfers arising from policy measures that create enabling conditions for the primary agricultural sector through development of private or public services, and through institutions and infrastructures regardless of their objectives and impacts on farm production and income, or consumption of farm products.
- **Total Support Estimate (TSE)** - overall estimate of the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture, net of associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products.

OECD indicators distinguished by: recipients of the transfer, unit of measurement and type of aggregation

OECD indicators of agricultural support

Intended recipient	Unit of measurement		Type of aggregation		
	Monetary	Percentage or ratio	Individual commodity or groups of commodities	Geographical	
				National ¹ (aggregate)	Multi-country (e.g. OECD total)
Producers individually	PSE	%PSE and producer NAC	nc	*	*
	-	producer NPC	*	*	*
	producer SCT	producer %SCT	*	*	*
	GCT	nc	*	*	*
	ACT and OTP	nc	nc	*	*
Producers collectively	GSSE	%GSSE	nc	*	*
Consumers	CSE	%CSE and consumer NAC	nc	*	*
	-	consumer NPC	*	*	*
	consumer SCT	nc	*	*	*
All recipients	TSE	%TSE	nc	*	*

$$PSE_C = MPS_C + \sum BOT = \sum PSE(sub)Category$$

Adaptations of OECD approach, relevant for pilot study countries

- **FAO's Monitoring and Analysing Food and Agricultural Policies (MAFAP, 2015):** developed for low- and middle-income countries (LMIC); **MAFAP's basic methodological approach used in FAO pilot study** for calculation of policy indicators (NRP, NRA)
- **AGRICISTRADO (TTP) methodology (Volk et al., 2015; Erjavec et al., 2017):** simplified PSE used in AGRICISTRADO project also for AM, AZ, BY, GE, MD
- **AMPC methodology (Volk et al., 2019):** combines OECD PSE/CSE policy measure classification and EU „policy pillars“ concept; adapted for the analysis of agr. policies in the EU approximation process in Western Balkan countries (Southeastern Europe)

FAO's Monitoring and Analysing Food and Agricultural Policies (MAFAP)

FAO's Monitoring and Analysing Food and Agricultural Policies (MAFAP, 2015) - background

- Developed for low- and middle-income countries (LMIC)
- MAFAP indicators for output price incentives/disincentives **based on OECD's proposal to compute market price differential of the OECD's PSE** (MAFAP, 2015: 6)

$$MPD = DP - BP$$

where: *MPD* – Market Price Differential

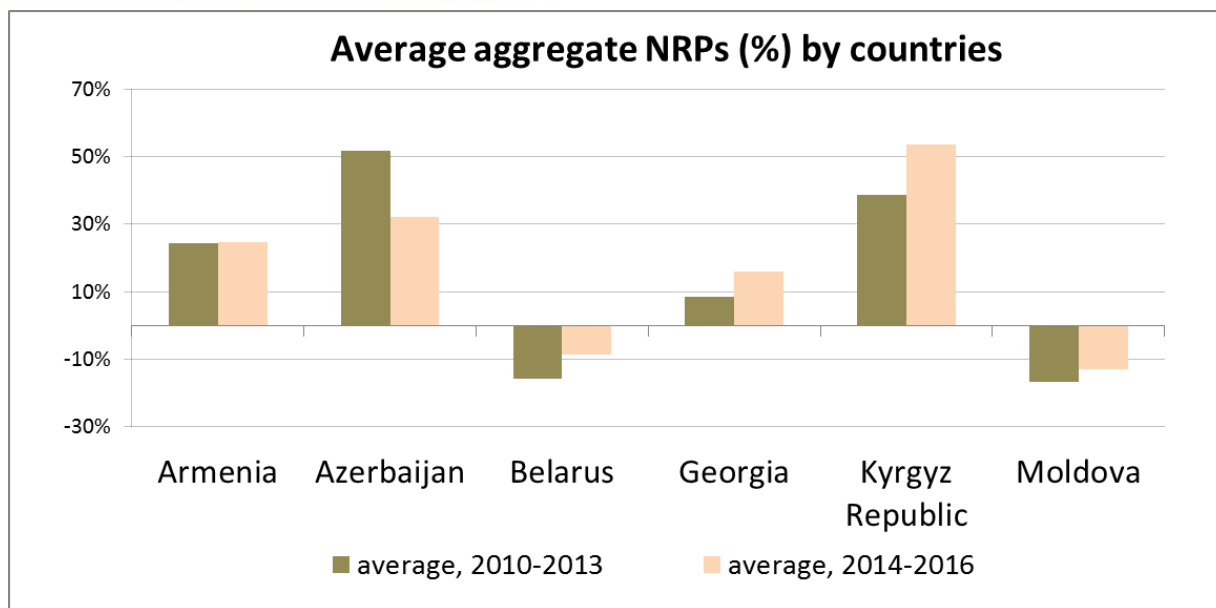
DP – domestic market price

BP – border price

- **FAO pilot study used MAFAP's basic approach** in data collection and calculation of agric. policy indicators NRP (nominal rate of protection), NRA (nominal rate of assistance): **nominal, observed, farm gate**
- **NRP conceptually equivalent to OECD's Producer Nominal Protection Coefficient (NPC) and NRA to Producer Nominal Assistance Coefficient (NAC)!**

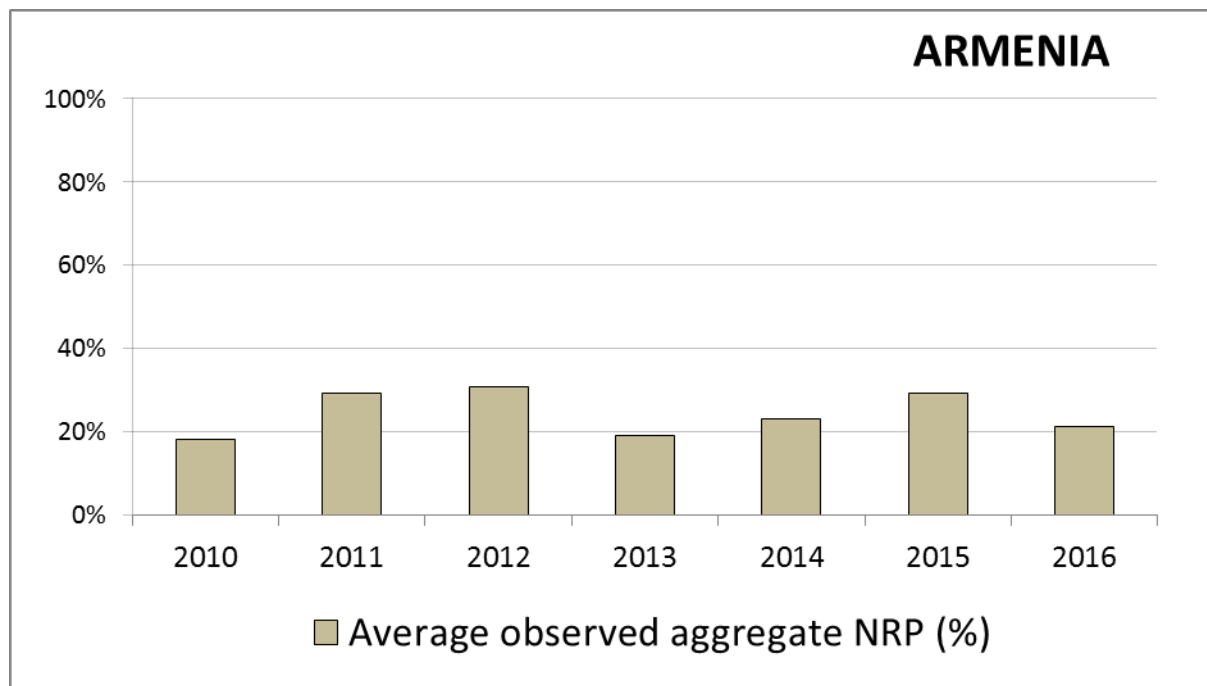
Results: Weighted aggregate NRPs by countries

$$NRP_g = \frac{\sum_{i=1}^n NRP_i * PROD_i * RP_{fgi}}{\sum_{i=1}^n PROD_i * RP_{fgi}}$$



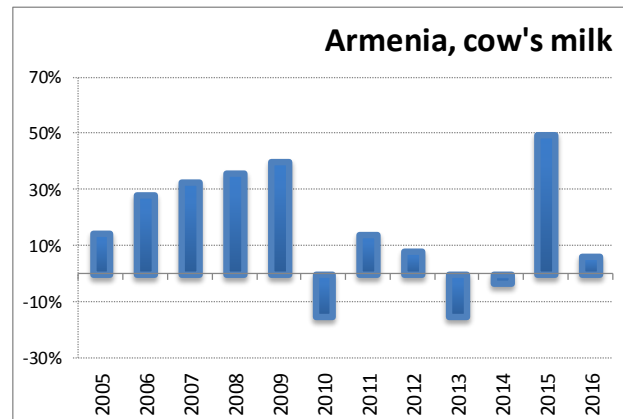
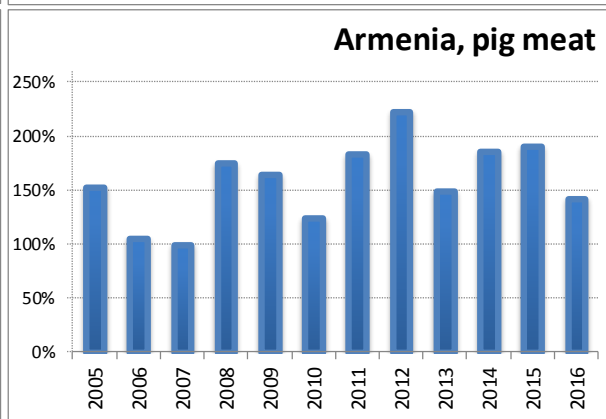
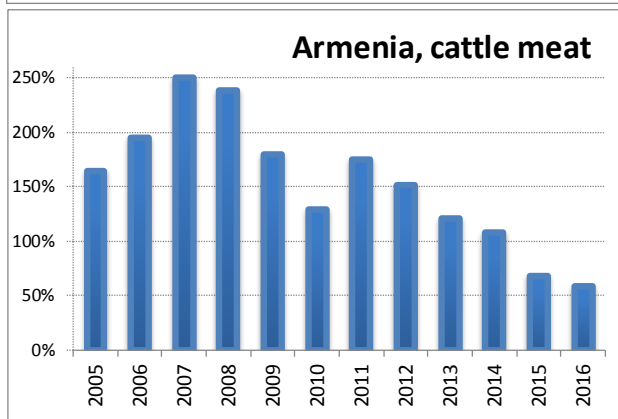
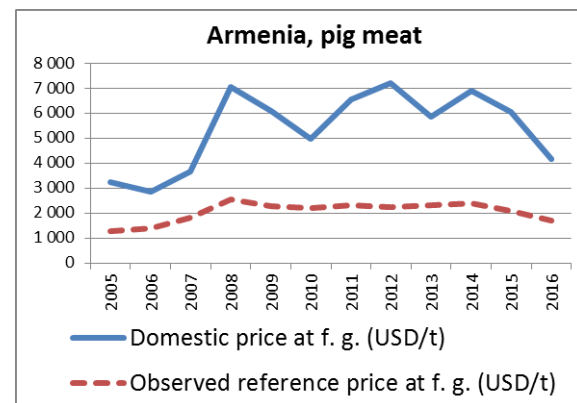
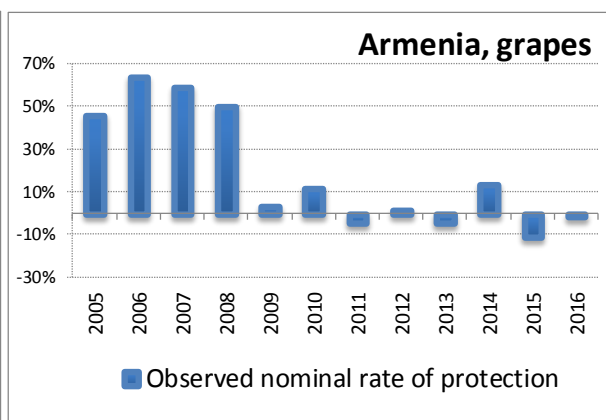
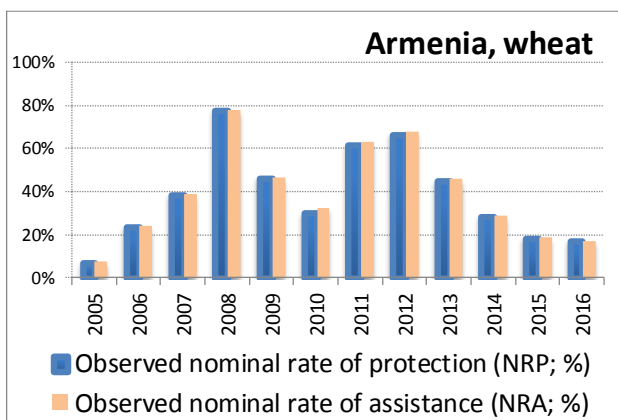
- **Agricultural price incentives** (positive aggregate NRPs): AZ & KY
- **Modest price incentives** (moderately positive NRPs): AM & GE
- **Price disincentives** (negative aggregate NRPs): BY & MD
- **Representativeness of analyzed key commodities:** 45-68 % of VOP (average range for 2005-2016; AM: 2008-2016)

Armenia: Weighted aggregate NRPs; 2010-2016

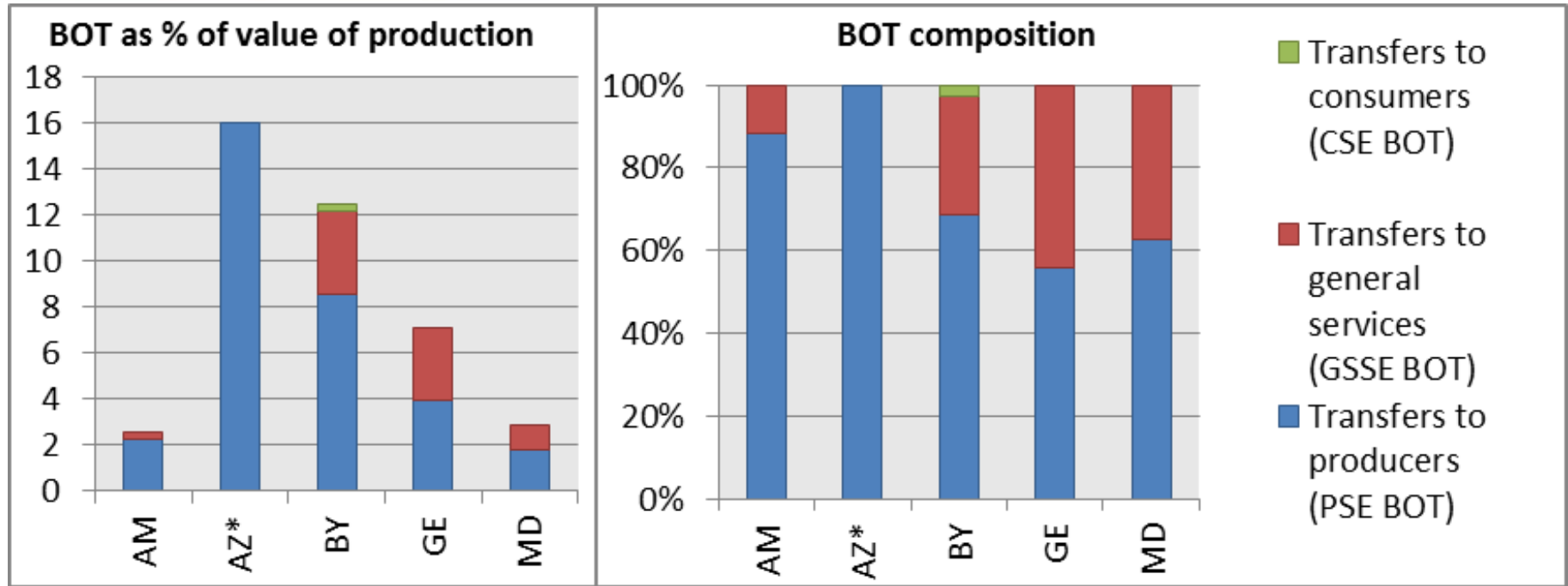


- **Positive aggregate NRPs:** modest price incentives for agricultural producers
- But problem of low representativeness of commodities, data (producer prices)

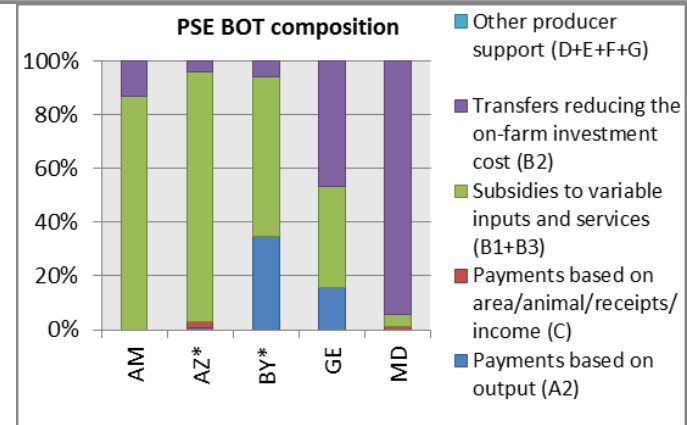
Armenia: NRPs by key commodities (%); 2005-2016



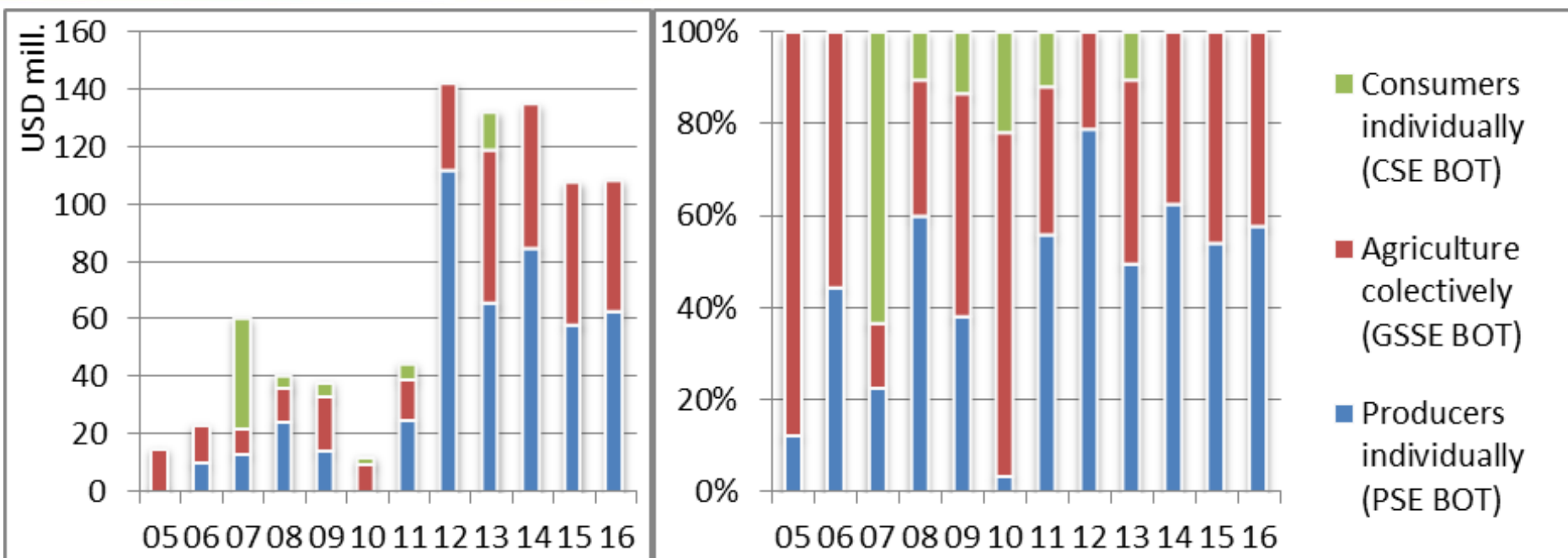
Budgetary and other transfers to agriculture by countries; average 2015-2016



- Relatively strong support (AZ, BY), low support (AM, MD) and GE in between
- Composition of budgetary and other transfers to agriculture varies (100% for PSE in AZ and 56% in GE)



Georgia: Budgetary and other transfers to agriculture; 2005-2016

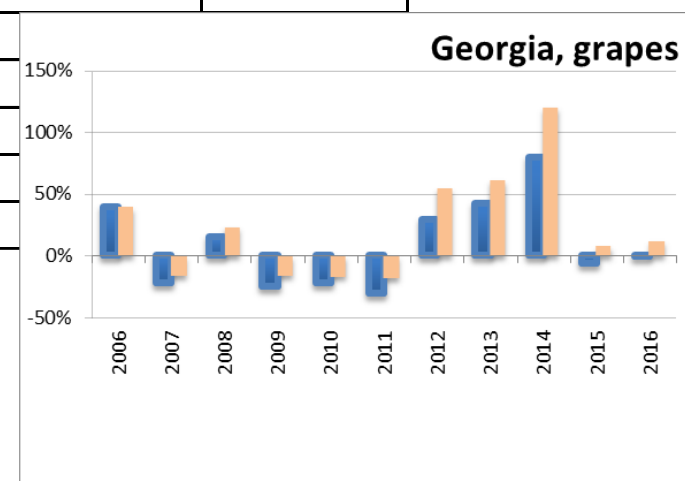


- **Support to agriculture varies significantly;** about 5% of the total value of agricultural production (7% in 2015-16)
- In 2015-16 cca. 56% for budgetary support to prod. and 44% for general services
- In 2015-16 around 9% payments based on output; 21% for subsidies for inputs and 26% for transfers reducing on farm investment costs

Budgetary and other transfers to agriculture, allocated by specific commodities & NRAs

Crops:	AM	AZ	BY	GE	MD
Wheat	2010-2013				
Maize					
Sunflower					
Tomatoes					
Potatoes			2012,2013	2009	
Grapes				2007-2016	
Hazelnuts					
Beans					
Livestock:					
Cattle meat (beef and veal)		2016			
Pig meat					
Sheep meat					
Chicken meat (Poultry meat)					
Cow's milk			2011-2016		
Eggs					

- **Only few measures commodity-specific;** small differences NRPs vs. NRAs (where applicable)
- **Grapes in Georgia;** only case where NRAs can be calculated for the **whole** period



AGRICISTRATE (TTP) methodology

AGRICISTRATE (TTP) methodology - background

- **AGRICISTRATE** - "Exploring the potential for agricultural and biomass trade in the Commonwealth of Independent States"; FP7 project, financed by European Commission; duration: 2014-2017
- Consortium of academic and research institutions from EU and „**CIS 8**“ countries (**Commonwealth of Independent States**): AM, AZ, BY, GE, Kazakhstan, MD, Russian Federation, Ukraine; **AM, BY, GE, MD: same partners as in pilot study!**
- **In terms of agr. policy indicators** the key aims of the project was to systematize and qualify budgetary and other transfers to agriculture (BOT) and to evaluate the (producer) price distortions as per OECD PSE/CSE methodology
- **KZ, RU, UA (and EU – for comparison reasons)**: OECD PSE/CSE data used, for other countries combination of project datasets and FAOSTAT data; for all simplified PSE methodology was used – „**AGRICISTRATE (TTP) methodology**“
- **Cross-country and country analysis**; 9-11 key commodities/country; „same“ commodities as in FAO pilot study: AM: 6, AZ: 6, BY: 8, GE: 5 and MD: 7
- **BOT analysis as per OECD PSE/GSSE/CSE approach** (OECD, 2010)

AGRICISTRADe (TTP) methodology (Erjavec et al. 2017)

- %NPR = Nominal Protection Rate

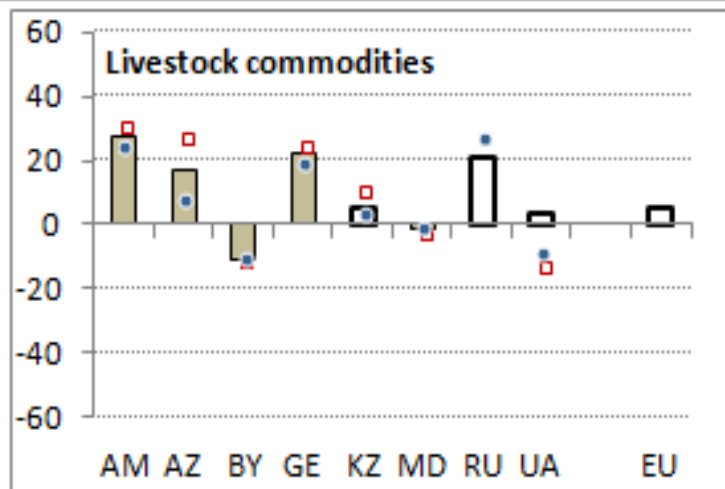
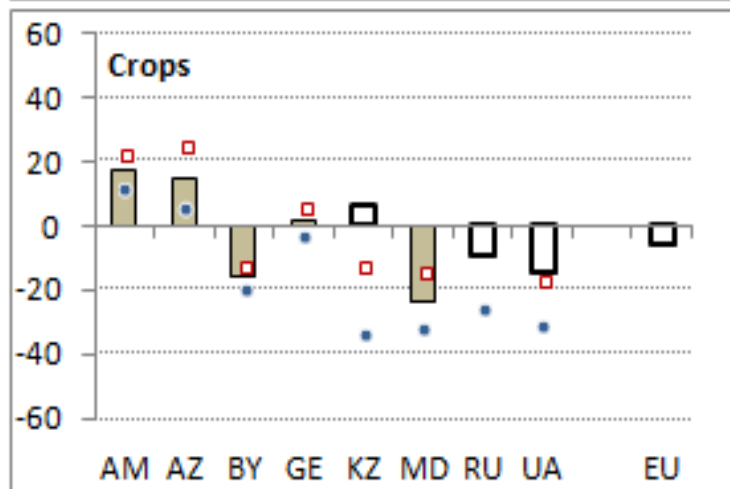
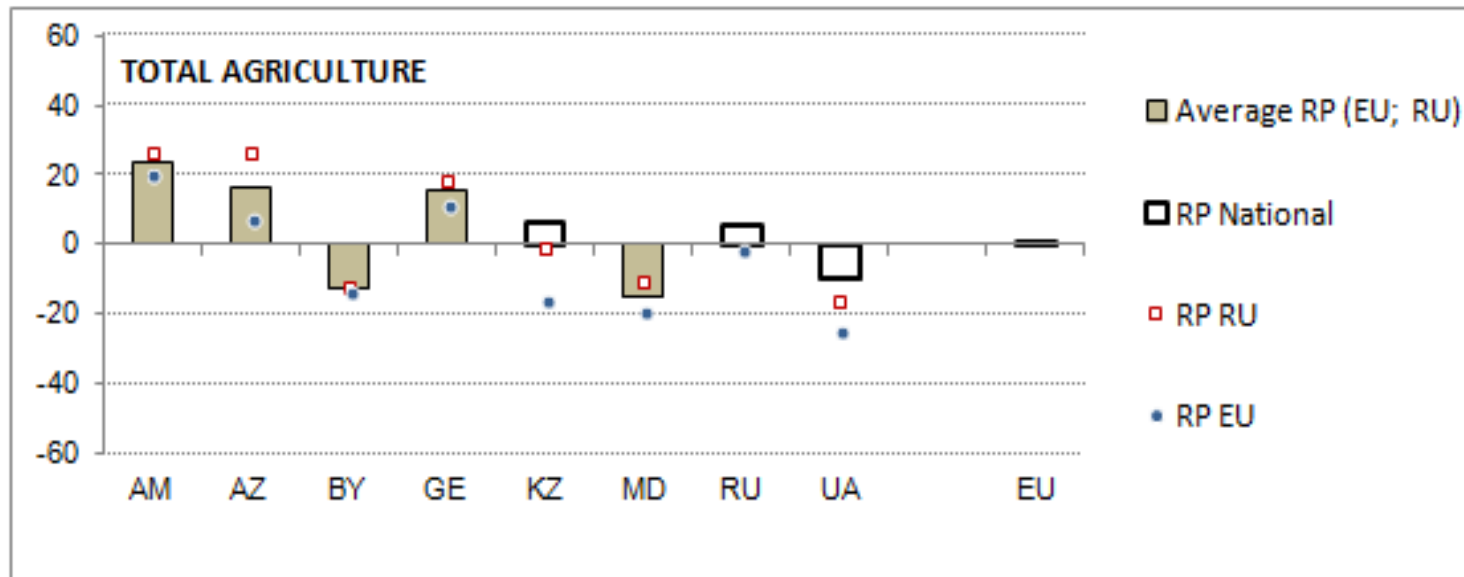
OECD indicators	Indicators used in the study
<i>Producer NPC for individual commodities</i>	<i>Percentage Nominal Protection Rate (%NPR) for individual commodities</i>
$\text{ProducerNPC}_i = \frac{PP_i + \frac{PO_i}{QP_i}}{RP_i}$ <p> PP_i = producer price of commodity i PO_i = sum of payments of commodity I based on output (PSE sub-category A.2) QP_i = quantity produced of commodity i RP_i = reference price of commodity i </p>	$\%NPR_i = \frac{PP_i}{RP_i} * 100 - 100$ <p> i = individual commodity PP_i = producer price of commodity i RP_i = reference price of commodity i </p>
<i>Producer NPC for a specific country</i>	<i>Percentage Nominal Protection Rate (%NPR) for a specific country</i>
$\text{ProducerNPC}_c = \frac{VP_c + PO_c}{VP_c - TP_c - TPT_c}$ <p> VP_c = total value of production of country c PO_c = total sum of transfers in PSE sub-category A.2 for country TPC_c = total Transfers to Producers from Consumers for country c TPT_c = total Transfers to Producers from Taxpayers for country c </p>	$\%NPR_c = \frac{\sum PP_i * QP_i}{\sum RP_i * QP_i} * 100 - 100$ <p> c = country aggregate i = individual commodity PP = Producer price RP = Reference price QP = Quantity of Production </p>
<p>Producer NPC is expressed as a coefficient (for example: 1.2); %NPR is expressed as % (for example: 20%). The difference is in the numerator; in the %NPR the numerator includes only the value of production, while in the OECD indicator the numerator includes the value of production and the Total sum of transfers in PSE sub-category A.2. The relation between indicators is as follows:</p> $\text{producer NPC} * 100 - 100 \geq \%NPR$	

AGRICISTRATE (TTP) methodology – cont.

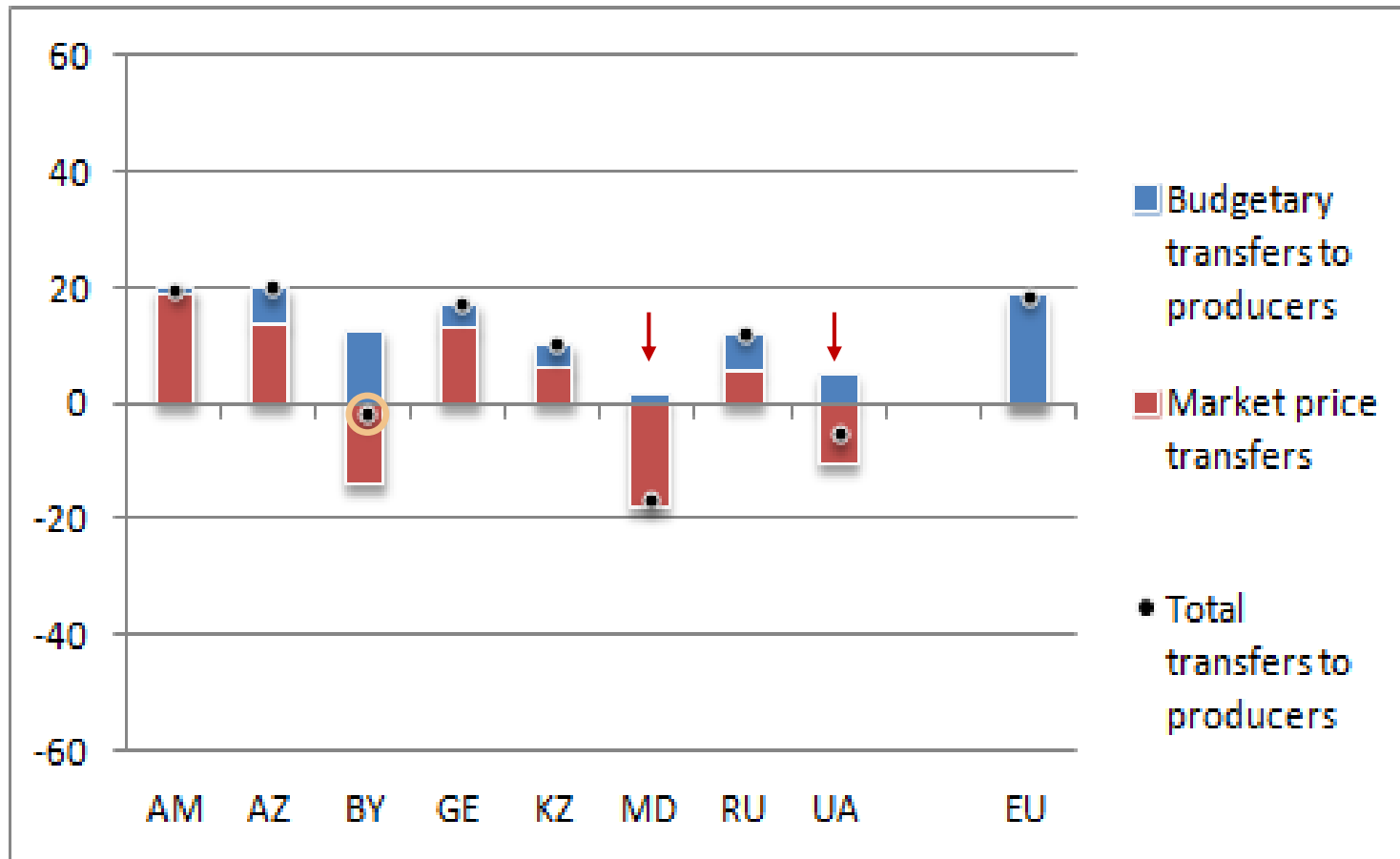
- **%TTP = Total transfers to producers in % of total value of agr. production**

OECD indicators	Indicators used in the study
<i>Percentage Producer Support Estimate (%PSE)</i>	<i>Total transfers to producers in % of the total value of agricultural production (%TTP)</i>
<p>Where</p> $\%PSE_c = \frac{PSE_c}{GFR_c} * 100$ $PSE_c = MPS_c + BOT_c$ $GFR_c = VP_c + BOT_c$ $MPS_c = \sum (MPD_i * QP_i - LV_i - EFC_i)$ <p> <u>GFR_c</u> = gross farm receipts of country c <u>VP_c</u> = total value of production of country c <u>BOT_c</u> = budgetary and other transfers to producers MPD = market price differential of commodity i <u>QP_i</u> = quantity produced of commodity i <u>LV_i</u> = price levies for commodity i <u>EFC_i</u> = excess feed cost for commodity i (livestock commodities only) </p>	<p>Where</p> $\%TTP_c = \%MPD_c + \%PSE\ BOT_c$ $\%MPD_c = \frac{\sum MPD_i}{\sum VP_i} * 100$ $MPD_i = PP_i - RP_i$ $\%PSE\ BOT_c = \frac{\sum \%PSE\ BOT_j}{VP_c} * 100$ <p> c = country aggregate i = individual commodity for commodities for which %NPRs has been calculated MPD = market price differential PP = producer price RP = reference price j = individual PSE category PSE BOT = budgetary and other transfers to producers VP = value of production (agricultural output) </p>
<p>The difference is in the numerator and in the denominator; the numerator in %TTP includes total MPD, while in %PSE, MPD is reduced by Price Levies and Excess Feed Cost. In the denominator, %TTP includes only the value of production, while the %PSE denominator includes Gross farm receipts (Value of production + BOT). The indicators are not directly comparable, but both generally show the same directions.</p>	

AGRICISTRADO (TTP) results: Price support (%NPR); „CIS 8“ countries; 2011-2012 average



Total transfers to producers (% TTP) in % of total value of agr. production; „CIS 8“ countries; 2011-2012 average



AMPC methodology

APMC methodology - background

- **The accession of Western Balkan (WB) countries** to the EU has gained new momentum in 2018; countries at different stages of integration
- **Agriculture - challenging integration into the EU:** alignment with EU's legal and institutional set-up, integration into the single market and decision-making process, applying Common Agricultural Policy (CAP)
- **Framework for future CAP:** based mainly on area-based producer support and an extensive set of rural development measures; previous research: WB countries at different stages of forming this kind of policy
- **Monitoring of agricultural policy in WB since 2008** (several projects: EUFP7, FAO, JRC); network of national academic and international experts under the umbrella of SWG (<http://seerural.org/>); **agricultural statistics database for WB countries** (<http://app.seerural.org/agricultural-statistics/>)
- **WB countries monitored:** Albania (AL), Bosnia and Herzegovina (BA), Kosovo* (XK), North Macedonia (MK), Montenegro (ME), Serbia (RS)

JRC TECHNICAL REPORTS

Monitoring of agricultural policy developments in the Western Balkan countries

Authors: Tina Volk, Miroslav Rednak, Emil Erjavec, Edvin Zhilima, Goran Gjeji, Sabahudin Bajramović, Zeljko Vasko, Dragana Gogjenović, Jelica Butković, Mihom Kerolić-Mustafa, Ekrem Gjokaj, Bekim Hoxha, Dragi Dimitrijević, Ana Kotevska, Ivana Janeska Stamenkovića, Aleksandra Martović, Darko Konjević, Mirsad Spahić, Natalija Bogdanov, Ružica Papić, Saša Todorović

Editors: Tina Volk, Emil Erjavec, Pavel Čičan, Sergio Gomez y Paloma

2017



EUR 28527 EN

- **Volk et al. (2017):**
<http://publications.jrc.ec.europa.eu/repository/handle/JRC105784>



JRC TECHNICAL REPORTS

Agricultural policy developments and EU approximation process in the Western Balkan countries

Authors: Tina Volk, Miroslav Rednak, Emil Erjavec, Irena Rac, Edvin Zhilima, Goran Gjeji, Sabahudin Bajramović, Zeljko Vasko, Mihom Kerolić-Mustafa, Ekrem Gjokaj, Bekim Hoxha, Dragi Dimitrijević, Ana Kotevska, Ivana Janeska Stamenkovića, Darko Konjević, Mirsad Spahić, Natalija Bogdanov, Milena Stević

Editors: Boban Ilić, Dori Pavloska - Gjorgjieska, Pavel Čičan

2019



EUR 29475 EN

- **Volk et al. (2019):**
<http://publications.jrc.ec.europa.eu/repository/handle/JRC114163>

APMC methodology

- **APMC - innovative classification tool for analyzing budgetary transfers to agriculture** (Volk et al., 2017, Volk et al., 2019); **potentially very useful for FAO pilot countries**
- **AMPC (Agricultural Policy Measures Classification Scheme)** developed for the **analysis of agricultural policies in countries preparing for EU accession**
- **APMC combines EU concept of policy „pillars“** (long-term CAP structure - pillars, measures) with **the OECD (PSE/CSE) classification of total transfers** associated with agr. policies (Volk et al., 2019)
- EU policy area - higher levels of aggregation, and OECD criteria - groups or subgroups under individual pillars (for defining the lowest level of classification - basic headings)
- APMC enables basic analysis of budgetary support for agriculture **in line with OECD PSE classification; comparison with current and future CAP**

APMC methodology – cont.

Three phases of data collection and analysis:

- Collecting data (all sources related to agriculture)
- Allocation of measures to the proper category
- Results & national and **comparative analyses** (cross-country, with EU)

Classification scheme composed of:

- **Total budgetary support to agriculture** divided in three main sections using the current EU concept based on policy pillars

Total budgetary support to agriculture		
1 st pillar: MARKET AND DIRECT PRODUCER SUPPORT MEASURES	2 nd pillar: STRUCTURAL AND RURAL DEVELOPMENT MEASURES	3 rd pillar: GENERAL MEASURES RELATED TO AGRICULTURE

Annex Table 1. APM classification scheme of budgetary support for agriculture, up to the third level

Market and direct producer support measures	
	Market support measures
	Export subsidies
	Market measures
	Operational costs of public stockholding
	Direct producer support measures
	Direct payments to producers
	Variable input subsidies
	Disaster payments and other compensations to producers
	Miscellaneous direct producer support
Structural and rural development measures	
	Improving the competitiveness of the agro-food sector
	On-farm investment and restructuring support
	Agricultural infrastructure
	Off-farm storage, processing, marketing and promotion
	Providing environmental and societal benefits
	Payments to farmers in areas with natural and other constraints
	Agro-environment, organic and animal welfare payments
	Other ecosystem-related payments
	Supporting rural economy and population
	Creation and development of non-agricultural activities in rural areas
	Rural infrastructure, basic services and village development
	Building local capacity (LEADER)
	Miscellaneous rural development measures
Other measures related to agriculture	
	Research, development, advisory and expert services
	Research and development projects
	Extension and advisory service
	Vocational training and infrastructure
	Public expert services
	Food safety and quality control
	Veterinary control
	Plant health control
	Quality control
	Other general support measures

Source:
Volk et al.,
2019: 56

Box 1. APMC scheme of budgetary support for agriculture – terms and definitions

10000 MARKET AND DIRECT PRODUCER SUPPORT MEASURES

12000 Direct producer support measures

Agricultural producer-specific payments aimed at increasing revenue or reducing costs of agricultural production, available throughout the sector (mostly based on annual calls for application).

12100 Direct payments to producers

12110 Production coupled direct payments

All forms of overall direct payments to agricultural producers requiring the production of a specific commodity, commodity group or any commodity.

12111 Direct payments based on output (price aids) [OECD PSE – A2]

Payments to producers for single commodities, made in the form of an addition to the producer selling price (e.g. payment per litre, per kg, per egg; payment as % of selling price).

12112 Direct payments based on current area/animal [OECD PSE – C]

Payments to producers made per hectare of agricultural area or per head of livestock (or per hive), based on the actual hectares under cultivation or livestock (hive) number in each year.

12119 Direct payments based on other criteria [OECD PSE – C or D]

E.g. payments based on income or revenue [C]; per-farm payments based on non-current production [D].

12120 Production decoupled direct payments [OECD PSE – E]

Payments to agricultural holdings based on non-current (fixed, historical) criteria, not requiring production of any agricultural commodity but requiring maintenance of agricultural land in good agricultural condition.

12200 Variable input subsidies

Source: Volk et al., 2019: 57

APMC methodology – cont.

Relative indicators:

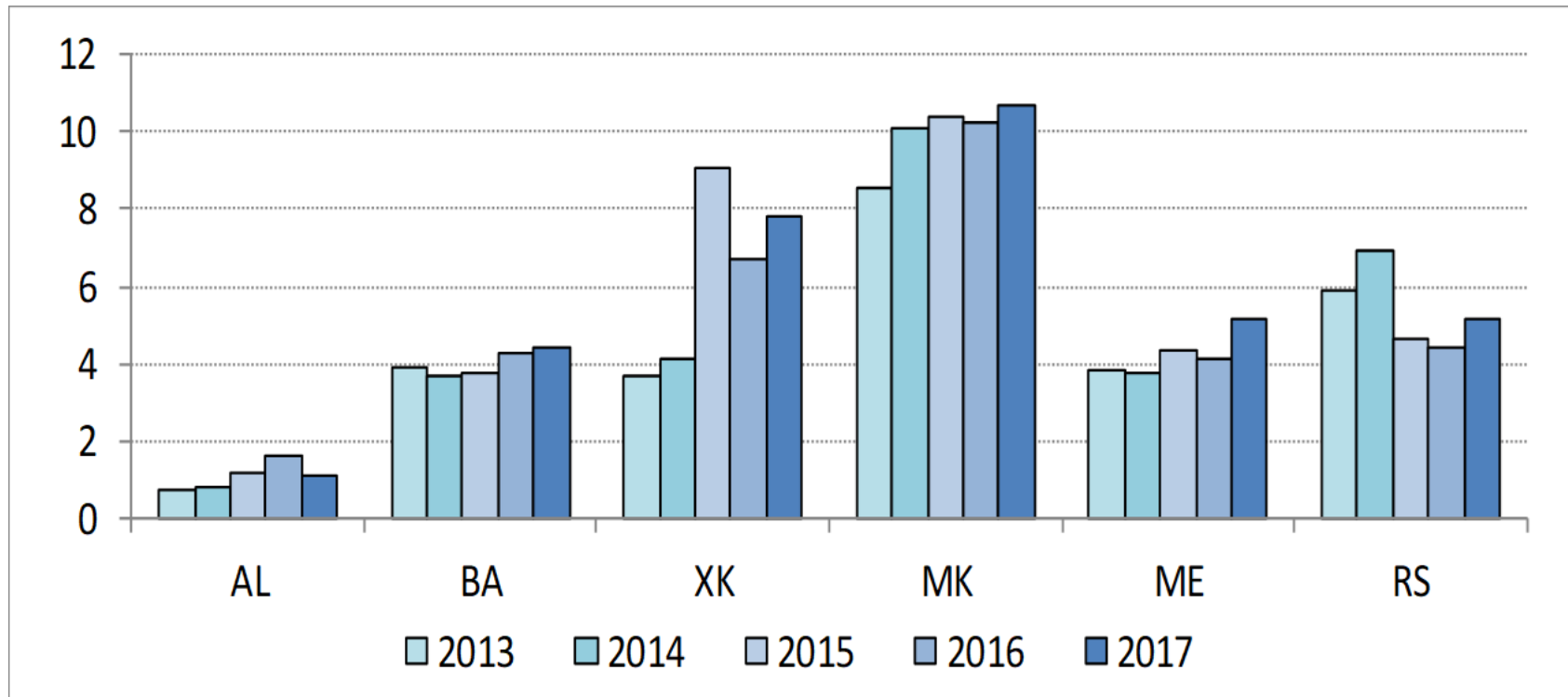
- absolute value of budgetary support to agriculture (total and by group of measures) divided by **total agricultural output** and expressed in %
- absolute value of budgetary support to agriculture in EUR divided by **total utilised agricultural area (UAA)**

APMC tool used for comparison of WB BOT with the EU's:

- All sources of public finance included
- The EU has no database including all EU and domestic agricultural policy budgetary transfers at EU and Member states level!
- The main source of **data for the EU was therefore OECD PSE/CSE database (2018)** with some adjustments!

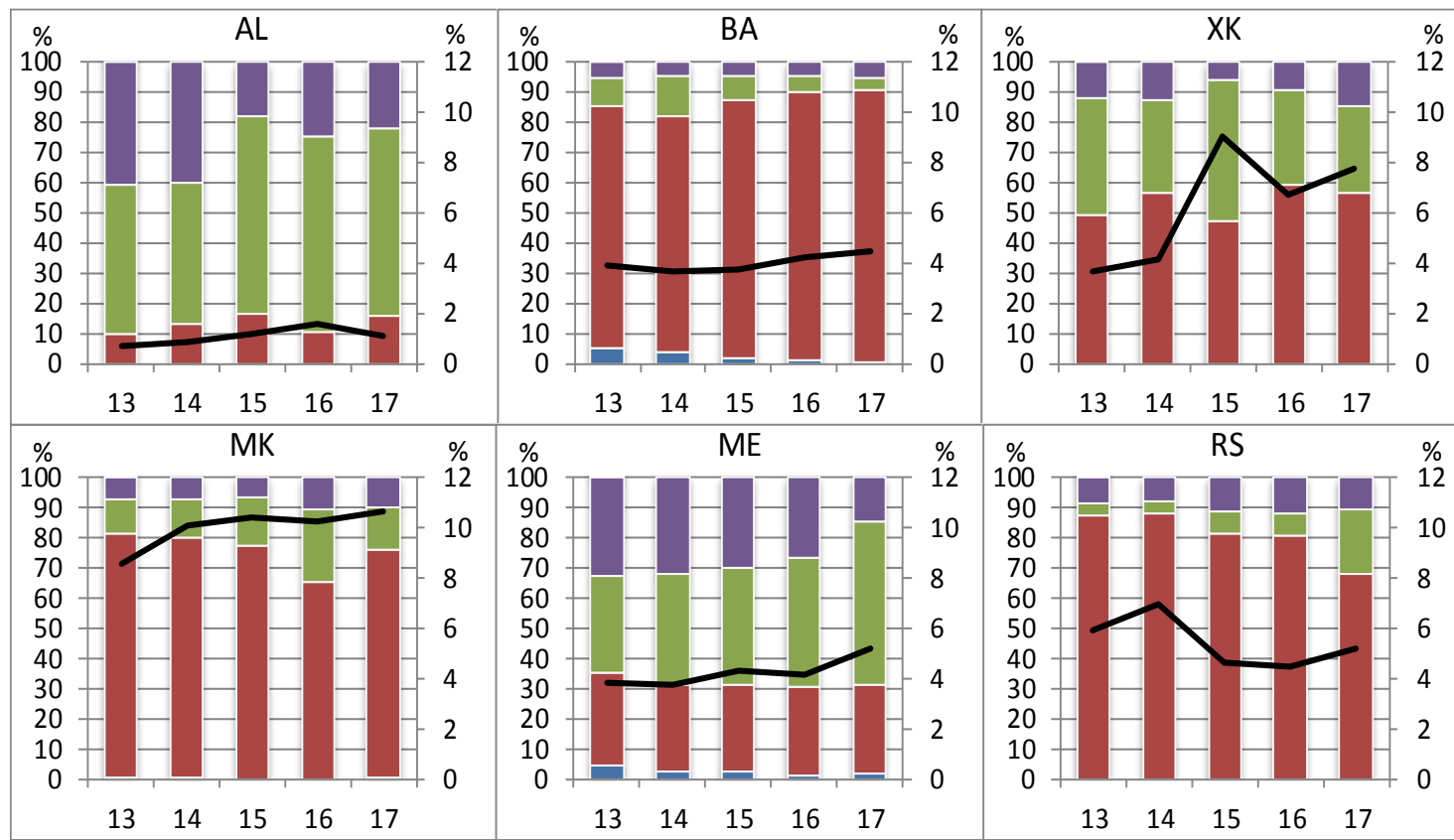
Results shown on following slides: from Volk et al. (2019: Figures 3., 4., 6., 11., 14. and 16.)

Budgetary support to agriculture: Total budgetary support (relative, % of agricultural output); 2013-2017



- Significant differences. High increase in Kosovo*.
- Highest level in Macedonia and lowest in Albania.

Total budgetary support to agriculture: Evolution and composition by groups of measures (%); 2013-2017



- BA, RS and MK high level of **direct producer support**.

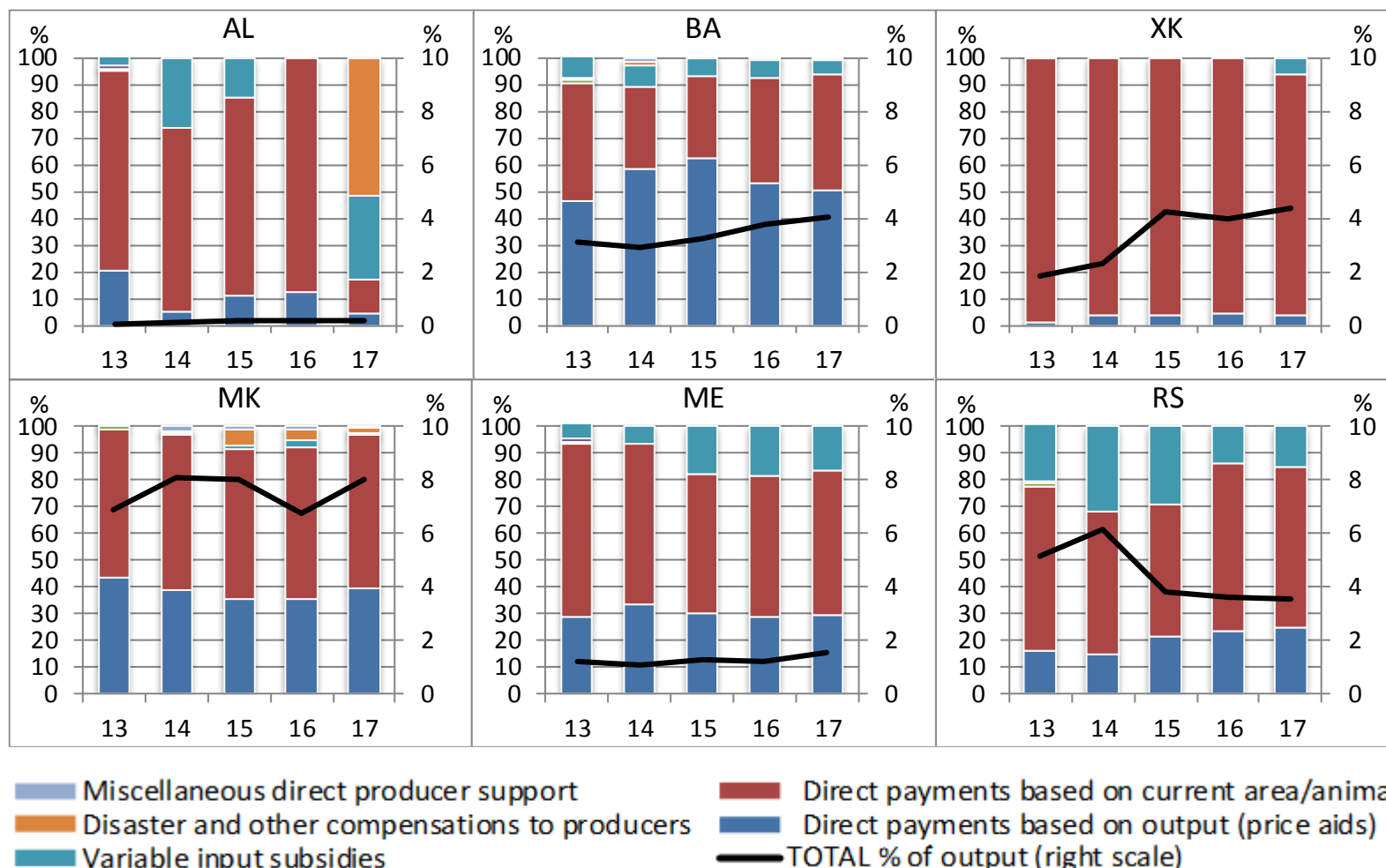
Tendency:

- higher support for agriculture: higher level of direct producer support!

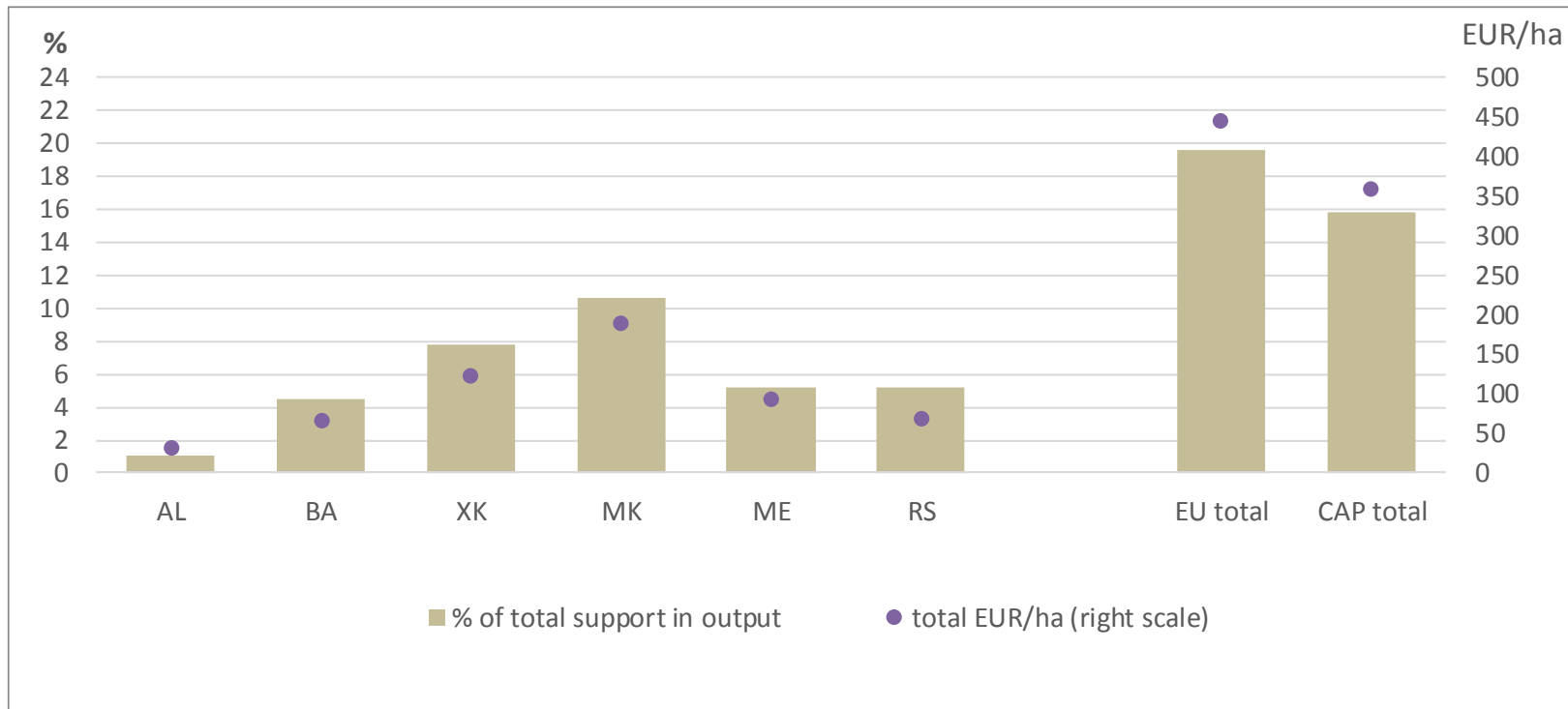
OTHER MEASURES RELATED TO AGRICULTURE
STRUCTURAL AND RURAL DEVELOPMENT MEASURES

Direct producer support measures
Market support measures
TOTAL % of output (right scale)

Direct producer support: Evolution and composition by groups of measures (%); 2013-2017

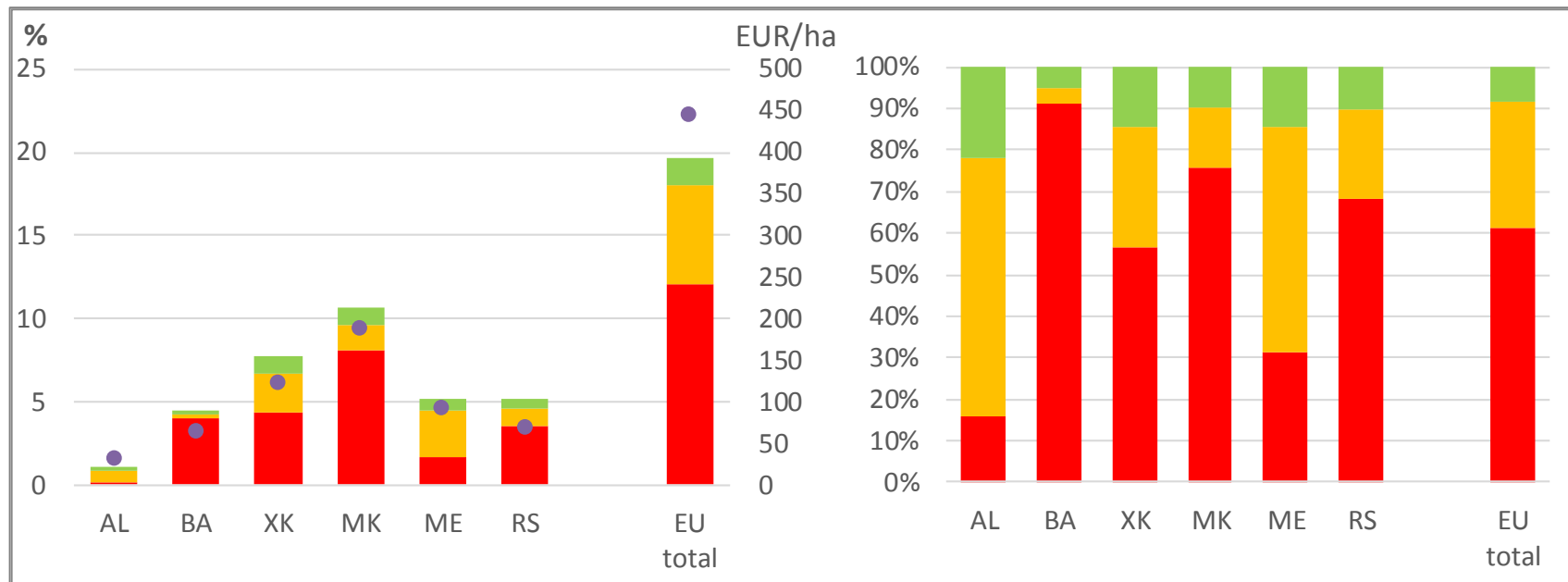


EU and WB: Relative level of total budgetary support to agriculture (% of agricultural output; EUR/ha), 2017



- Lower support for agriculture in WB in comparison with the EU.
- The highest support: MK (around half of average total support in EU 28).

EU and WB: Relative level and composition of total budgetary support to agriculture (by APM Pillars, % of agricultural output; EUR/ha), 2017

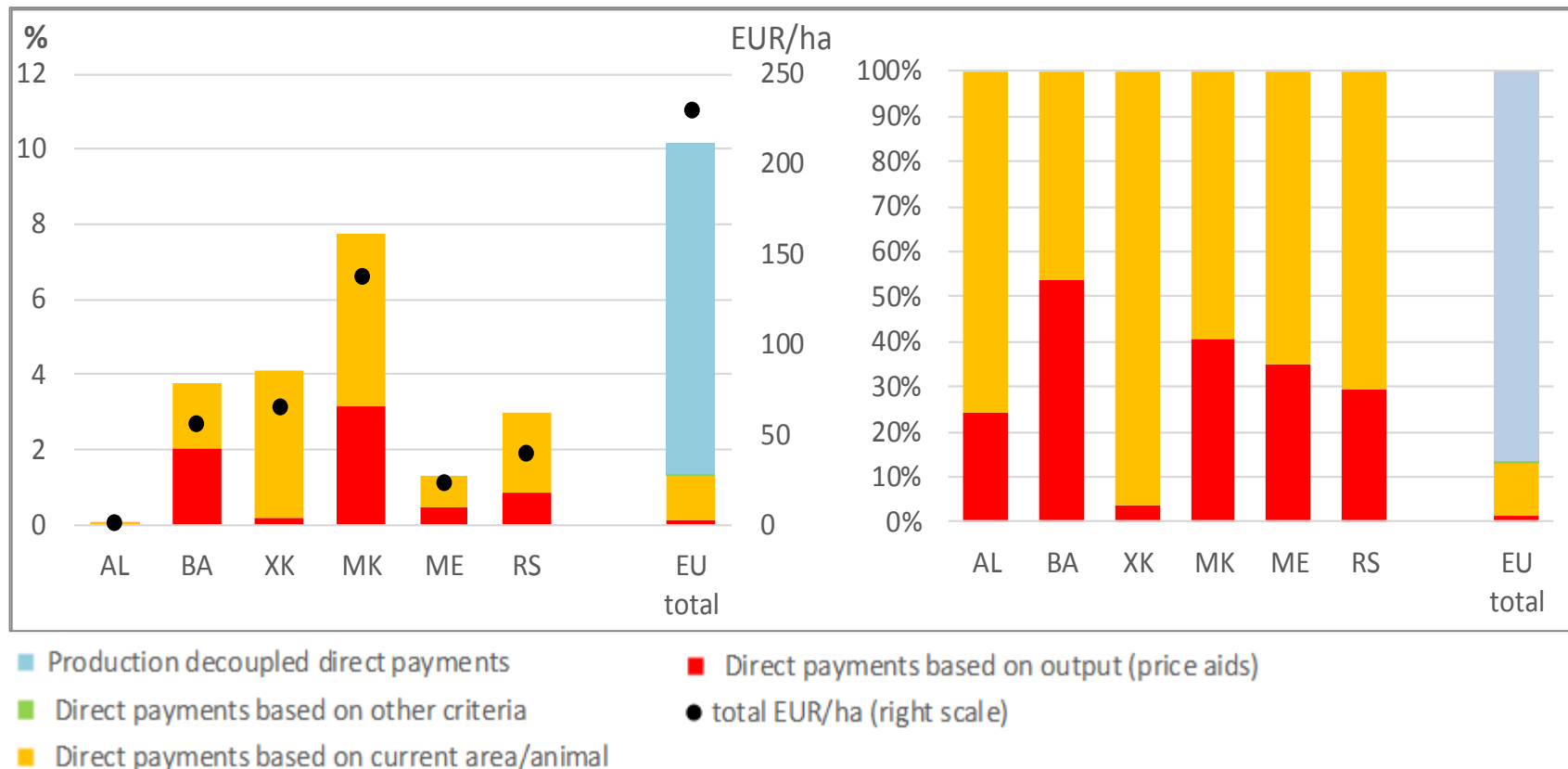


■ OTHER MEASURES RELATED TO AGRICULTURE
 ■ STRUCTURAL AND RURAL DEVELOPMENT MEASURES

■ MARKET AND DIRECT PRODUCER SUPPORT MEASURES
 ● total EUR/ha (right scale)

- Composition of support is different within the WB and compared to the EU.
- However, Member states in the EU have very different structures of support.

EU and WB: Relative level and composition of dir. payments to producers (% of agricultural output; EUR/ha), 2017



- No decoupled support in WB. Area and headage payments prevail.
- Output payments are a challenge for policy reforms!

Conclusions

- **Systematic and continuous monitoring of agricultural policies** is crucial for **evidence-based policy making**
- Different approaches; importance of **continuity, comparability** (in the region, internationally, with major trading partners)
- **APMC methodology** (OECD PSE/CSE approach, combined with EU CAP „pillar“ classification) **potentially relevant** also for **FAO pilot study countries**
- **Key potential benefits of applying AMPC** (experience from WB countries):
 - **Common, comparable, objective approach and datasets**
 - **Comparability with OECD PSE/CSE** database (36 OECD countries, and many non-OECD countries, such as China, Russ. Federation) and **EU CAP**
 - Further **capacity building** of national institutions, expert networks
 - Further **strengthening of evidence-based policy in the region**
- Certain **adaptations of AMPC to regional specifics needed**
- **FAO pilot study:** confirmed (basic) feasibility of data collection and BOT analysis in most pilot study countries



Thank you for your attention!