Pilot Study on Agricultural Policy Monitoring in Six post-Soviet Countries:

Data collection and methodology

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Final Workshop of the Pilot Study on Agricultural Policy Monitoring in Six post-Soviet Countries
Minsk, October 2-3 2019
• **FAO pilot study:** analyzed countries and key aims

• **Methodology:**
  - Agricultural price incentives/disincentives (policy indicator: NRP)
  - Budgetary and other transfers to agriculture
  - Data requirements and data collection

• **Key pilot study results**

• **Conclusions:** limitations and further research
FAO’s pilot study: analyzed countries and key aims

• Analysed post-Soviet countries: Armenia (AM), Azerbaijan (AZ), Belarus (BY), Georgia (GE), Kyrgyz Republic (KY) and Moldova (MD)

• Background: these countries not covered in systematic & continuous international agricultural policy monitoring following the significant policy changes after the dissolution of Soviet Union

• Key aims of pilot study:
  - contribute to systematic monitoring of agricultural policy distortions by assessing feasibility of calculation of agricultural policy indicators: nominal rates of protection (NRP) and nominal rates of assistance (NRA)
  - analyse budgetary and other support to agriculture (following OECD PSE/CSE classification; OECD, 2016)
Why measure agricultural policy distortions?

• To help analyze political economy causes and economic and welfare effects of past policies & prospective alternatives (policy scenarios)
• To evaluate incentives/disincentives to production, processing and marketing for key food/agricultural value chains; who is benefiting - producers, processors, traders, consumers?
• Price distortions due to:
  - own country price-distorting policies (domestically or at national borders)
  - large countries‘ policies
  - rest of the world‘s policies
  - market failures and underdevelopment
• **FAO-MAFAP (2015):** tool for monitoring & analyzing policies and their effects on producers and other value chain agents in developing countries
• **Pilot study used MAFAP‘s basic methodological approach in data collection and calculation of agricultural policy indicators**
Agricultural policy indicator: NRP

- Agricultural policy indicators calculated:
  - Nominal rate of protection (NRP) – **observed, at farm gate only**!
  - Nominal rate of assistance (NRA) – **observed, at farm gate only**!
- Observed = based on actual market and policy situation in a country
- **NRP**: domestic-to-border-price ratio; gap between (possibly) distorted domestic farm gate price and international reference price (without influence of domestic policies or markets):

  \[
  NRP_{ofg} = \frac{P_{fg} - RP_{ofg}}{RP_{ofg}} \times 100
  \]

  - \( P_{fg} = \) observed domestic price at farm gate
  - \( RP_{ofg} = \) observed reference price at farm gate

- NRP is a measure of the **direct effect** (in relative terms) of domestic market and trade policies and overall market performance on prices received by agents in the value chain (MAFAP, 2015);

- Conceptually equivalent to OECD’s Producer Nominal Protection Coefficient (NPC) and to NRP’s collected by Ag Incentives Consortium
Agricultural policy indicator: NRA

• **NRA**: extension of NRP by including commodity specific public expenditures (budgetary and other support - BOT)

\[
NRA_o = \frac{(P_{fg} - RP_{ofg}) + BOT}{RP_{ofg}} \times 100
\]

- \(P_{fg}\) = observed domestic price at farm gate
- \(RP_{ofg}\) = observed reference price at farm gate

• NRA calculated same as NRP, only the **public expenditure** directly allocated to the commodity is added to the price gap at the farm gate (MAFAP, 2015)

• Thus, NRA a measure of price incentives/disincentives - effect (in relative terms) of domestic market and trade policies, overall market performance **and public expenditure** in support of the agricultural sector (MAFAP, 2015)

• **NRA conceptually equivalent to OECD’s Producer Nominal Assistance Coefficient (NAC)!**
Data required to calculate NRPs and NRAs

By key commodities, national level, by individual years in period 2005-2016:

- **Trade status and trade intensity** (foreign trade data)
- **Benchmark prices**: prices at a border of a country
- **Domestic prices**: at farm gate level (producer prices) and at point of competition (wholesale level)
- **Exchange rates**
- **Market access costs**: from border to point of competition and from farm gate to point of competition
- **Budgetary and other transfers (BOT) to agriculture**
- **Quality and quantity adjustment parameters**: for production and foreign trade
- **Additionally**: **Description of key value chains and processing**
Data inputs and architecture of data files

- Combination of **own data templates** and MAFAP commodity files
- Data primarily collected by country experts
- Description of key value chains for specific commodities: additional (narrative) background information, done by country experts
Methodology: Steps

1. **Selection of key commodities:** initial aim to analyze commodities that cumulatively account for at least 70% of value of production (à priori analysis of FAO-STAT data); **commodity list later fine-tuned - based on national data and consulted with country experts**; national data used in follow-up calculations (e.g. aggregate NRPs)

2. **Analysis of trade data:** **net trade status** (net importer/exporter of certain commodity), **trade intensity** (commodity thinly traded or not) – based on aggregate HS codes

3. **Determining unit import/export values as observed benchmark prices:** for calculating observed reference prices at farm gate

4. **Consideration of observed access costs and adjustment factors by quantity:** for calculating observed reference prices at farm gate (most comparable to producer prices)

5. Determining alternative reference prices at farm gate in case unit export/import value were not used as observed benchmark price (reasons: e.g. level of unit values calculated not realistic for the region in the analyzed period, level of access costs too high)

6. Alternative reference prices used (20/45 cases):
   - Observed domestic price at farm gate, in case average trade intensity in period <2% (NRP=0.0); non-tradable commodities (e.g. potatoes)
   - OECD reference prices at farm gate (EU28, Russian Federation, Turkey, Ukraine)
   - Moldovan observed reference price at f. g.; used for grapes in AM, GE)
7. **Budget compilation and classification**: as per OECD PSE/CSE classification scheme (same as in AGRICISTRADe approach; Erjavec et al., 2017)

Basic OECD PSE/GSSE/CSE classification scheme (OECD, 2016) of budgetary support (explicit and implicit budgetary transfers):

a) **Budgetary transfers to producers (PSE BOT)**
b) **Budgetary transfers to general services (GSSE BOT)** and
c) **Budgetary transfers to consumers (CSE BOT)**
d) **Total budgetary and other transfers (Total BOT)**: a)+ b) + c)

8. **Allocation of public expenditures to key commodities**: only directly commodity attributable public expenditure considered in this pilot study

9. **Calculation of policy indicators**: NRPs and case study of NRA
• 6 countries
• 14 different commodities
• 6-8 commodities/country
• Altogether: **45 commodity cases!**

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**Total no. of key commodities:** 8  8  8  7  6  8

* Average trade intensity for 2005-2016 below 2%; observed domestic price at farm gate is used for observed reference price at farm gate (NRP=0.0)

** OECD prices: Reference prices at farm gate (Source: http://www.oecd.org/agriculture/agricultural-policies/producerandconsumersupportestimatesdatabase.htm)

*** Moldovan observed reference price at farm gate
Access costs and adjustment by quantity

- **Access costs from border to point of competition (POC):** costs incurred for bringing the commodity from the border to the representative POC; main components: port charges, import procedures, transport costs and import costs.

- **Access costs from farm gate to POC:** costs incurred for bringing the commodity from farm gate to a representative POC, i.e. the main wholesale market in the country such as capital city or port. Main types of these costs are related to: processing, transportation, and handling.

- **Adjustment by quantity:** describe of quantitative „relationship“ (technical coefficients) between domestically produced and exported/imported key commodities; e.g. meat vs. live animals (e.g. pig meat adj. f. 0.78 from live weight to carcass weight).
Pilot study results

Nominal rates of protection (NRPs):

• Cross-country results: weighted aggregate NRPs for all countries (average 2010-2013 vs. 2014-2016)

• One country case (AM): aggregate NRPs by years (aggregated for all analyzed key commodities in a country – representativeness!) and NRPs by key commodities

Budgetary and other transfers (BOT):

• Cross-country results: average 2015-2016 structure of BOT (PSE BOT, CSE BOT, GSSE BOT) and contribution to value of production

• One country case (GE): value and structure of BOT for 2005-2016 and NRA case study
• **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: 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)
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

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• **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
Conclusions: key results and some limitations

• Three groups of countries by aggregate NRPs: strong agr. price incentives (AZ, KY), modest price incentives (AM, GE) and price disincentives (BY, MD)

• Key factors influencing the estimations of NRPs appear to be (further analysis needed!): besides policy related distortions also market inefficiencies and imperfections (limited market integration, asymmetrical distribution of market power, etc.)

• Aggregate pilot study results confirm general aggregate trends in agricultural price incentives/disincentives estimated in an earlier research (AGRICISTRAD project; Erjavec et al., 2017)

• Budgetary and other transfers to agriculture: relatively strong support (AZ, BY), low support (AM, MD) and GE in between

• Some issues with quality and completeness of data; many assumptions

• Exact values of policy indicators need to be treated with some caution!
Recommendations for future research

• Improve **representativeness** of analyzed commodities
• **Further analysis of specific agricultural price distorting factors** (e.g. market structures, weak infrastructure, prevailing subsistence farming)
• **Additional training of partners**: capacity building material, specific for the region
• **Additional validations of results**

**Overall conclusions:**
• **Feasibility of calculating NRPs** (based on MAFAP) and BOT analysis for pilot study countries confirmed
• **Huge effort done by country experts and research team** (45 commodity cases)!
• **Highly recommended** to further invest in the expert network and building of national capacity for policy monitoring to enhance evidence-based policymaking in the region
Thank you for your attention!