IΛMO

Leibniz Institute of Agricultural Development
in Transition Economies

Measuring agricultural policies

Prof. Dr. Thomas Herzfeld

WIUT Virtual Seminar Series| 17 June 2020

Motivation

BUSINESS NEWS   APRIL 15, 2020 / 12:18 PM / 2 MONTHS AGO

Exclusive: Ukraine ready to ban wheat exports if necessary - official

Pavel Polityuk, Sergei Karazy   www.reuters.com   4 MIN READ

EURACTIV   The Capitals   Newsletters   f 🐦 ▶ 🔊 ◎   Login / Register   Event

Agrifood   Digital   Economy & Jobs   Energy & Environment   Global Europe

to transition regions and €34.2 billion to more developed regions.

New EU budget 2021-2027:

In regards to CAP and environment funding, the total level of commitments is set at €346 billion, of which €254.247 billion will go mostly to farmers (market related expenditure and direct payments).

www.euractiv.com, 2. Dec. 2019

The share of agriculture in Kazakhstan's GDP has not exceeded 4.5 percent despite more than 2.4 trillion tenge (US$6.3 billion) allocated to the sector over the past five years. The Ministry of Agriculture has been directed to create conditions for the processing of raw products in the country.

www.astanatimes.com, 25. Jan. 2020

Who can compare the monetary effects at farm level?

Types of policy support of agriculture

IAMO
Leibniz Institute of Agricultural Development
in Transition Economies

Direct effect on agricultural markets		Indirect effect on agricultural markets	
Border measures	**Domestic measures**	**Distortionary elements**	**Non-distortionary instruments**

Examples
- Tariffs & taxes
- Quotas

Examples
- Intervention prices
- Taxes & subsidies (coupled)
- Quotas

Examples
- Decoupled direct payments
- Sector specific social policies

Examples
- Food safety laws
- Quality standards

The origins: Nominal Protection

- What is the difference in prices caused by border measures?

- First studies: Josling (1973) and Valdes (1973)

- Nominal Protection Coefficient
  NPC = p_i/p_w

- Nominal Rate of Protection
  NPR=$(p_i - p_w)/p_w$ = NPC-1
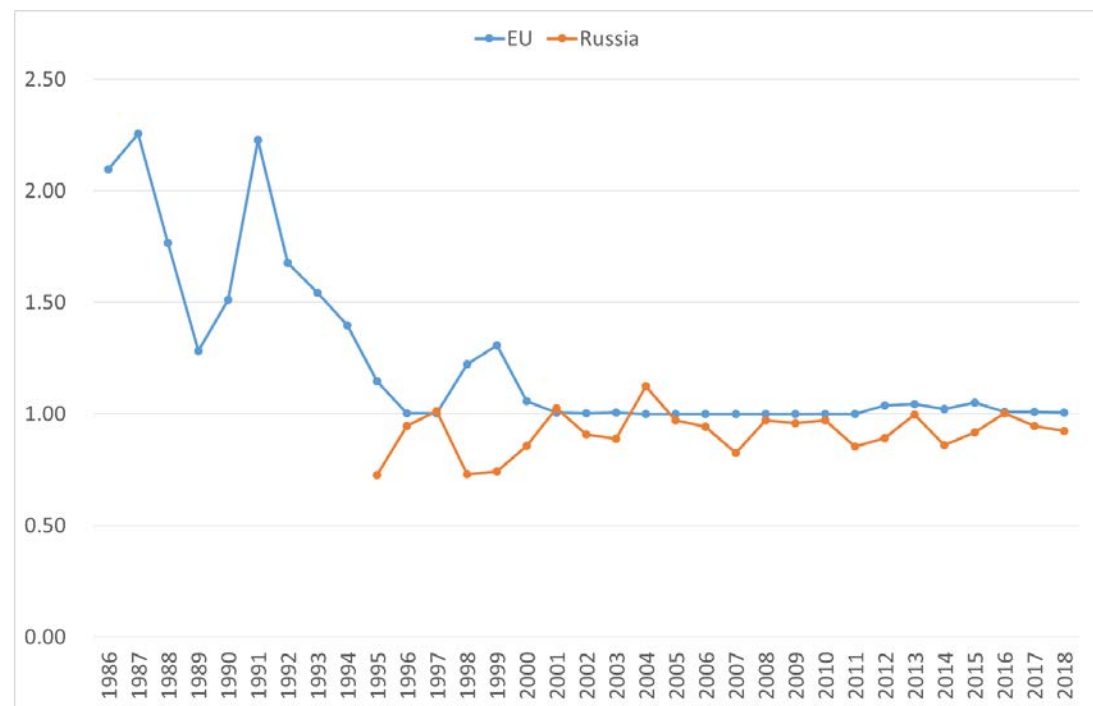
Source: OECD (2019)

Nominal ≠ Effective protection?

- Grain production
  - Tariff rate 10%
  - NPC=1.1

- Poultry production
  - Tariff rate: 10%
  - NPC=1.1

  But input costs higher compared to world market situation!

Nominal ≠ Effective protection (often)

- Effective Coefficient of Protection EPC = ValueAdded $(VA)_i/VA_w$

  - Effective Rate of Protection EPR=EPC-1

- Relation between nominal and effective protection:

  $VA_i = p_i\, q - w_i\, x$ $\qquad\qquad\qquad$ $VA_w = p_w\, q - w_w\, x$

  - Example: Ad valorem tariff protection

    $p_i = (1+t_O)p_w$ $\qquad\qquad$ $r_i = (1+t_I)\, w_w$

$$\mathrm{EPC} = \frac{(1+t_O)p_w q - (1+t_I)w_w x}{p_w q - w_w x} = 1 + \frac{t_O p_w q - t_I w_w x}{p_w q - w_w x}$$

- EPC = NPC if x=0 or t_O=t_I

Budgetary support

- Sum of all budgetary payments to individual producers
- Approach by Rednak, Volk and Erjavec (2013): Agri-Policy Measures (APM) tool
  - Market and direct producer support measures
  - Structural and rural development measures
  - General measures related to agriculture (e.g. food safety & veterinary agencies)

# Combining all elements:
OECD's Total Support Estimate

- Total Support Estimate (TSE): Total transfers to producers and consumers associated with agricultural policies

  - Producer Support Estimate (PSE): Share of producer revenue due to agricultural policy
    $APSE = q^S(p^S_i - p_w^S) + D - L$
    $PSE\ [\%] = (100 \cdot APSE)/(q^S\ p_i^S + D - L)$

  - Consumer Subsidy Equivalent (CSE):
    $CSE\ [\%] = (-q^C(p_i^C - p_w) + G)/q^C p_i^C * 100$

  - General Services Support Estimate (GSSE): government expenditures for sector in general

Illustration: Kosovo
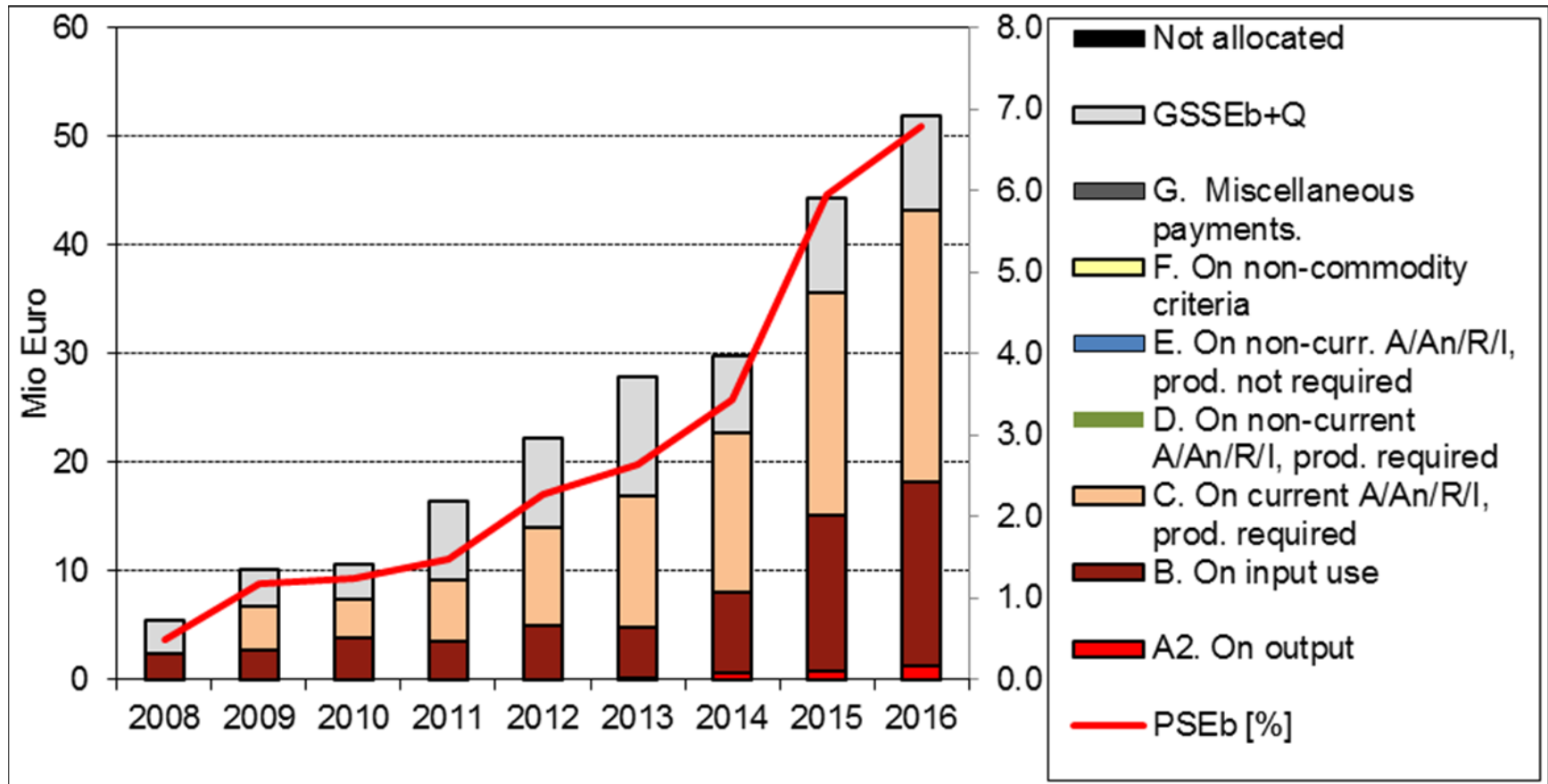
Source: Own calculation based on MAFRD

Illustration: Kosovo (II)
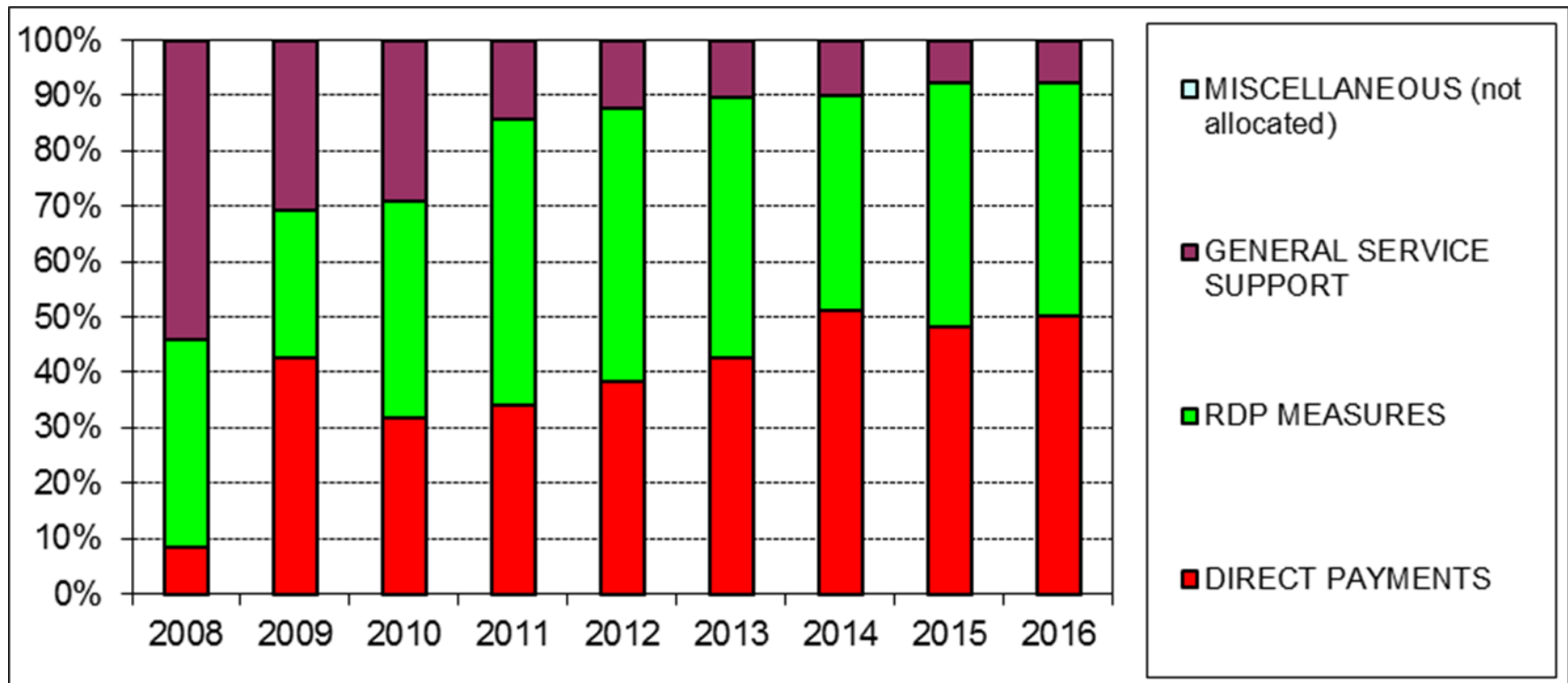
Source: Own calculation based on MAFRD

Illustration: Choice of reference price

- Identification of net trade status: Example Moldova net exporter of wheat

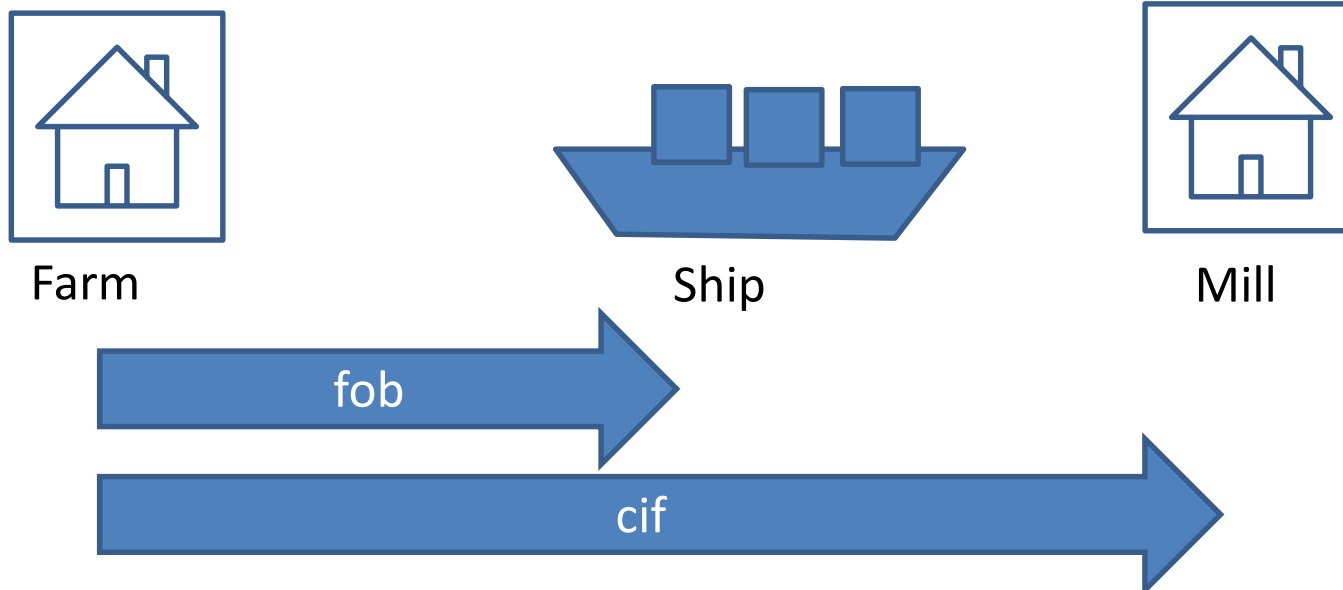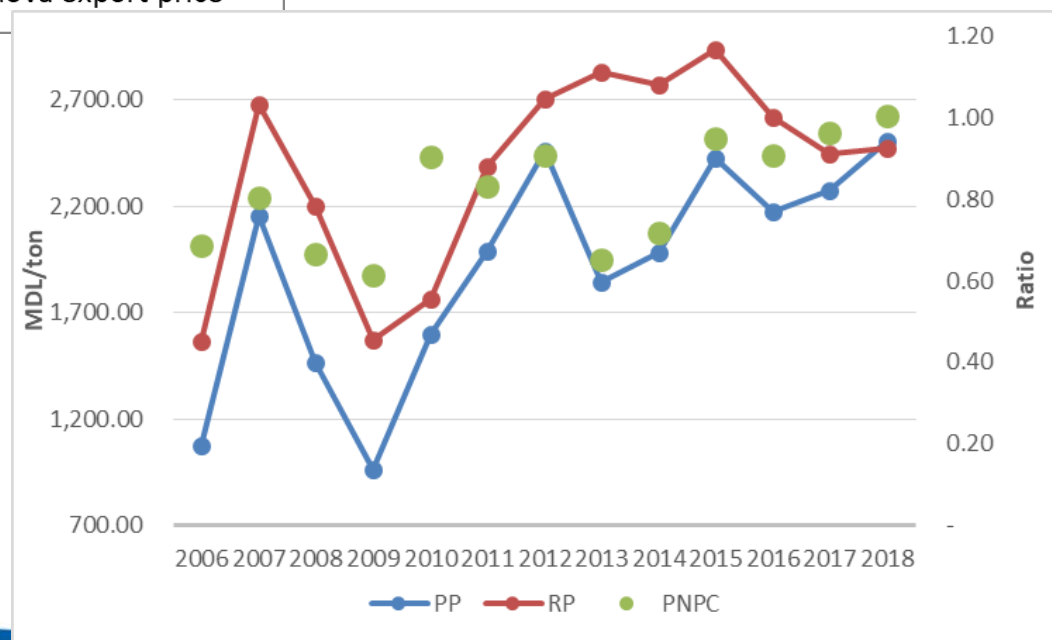- Reference border price: free on board (fob) versus cost insurance freight (cif)
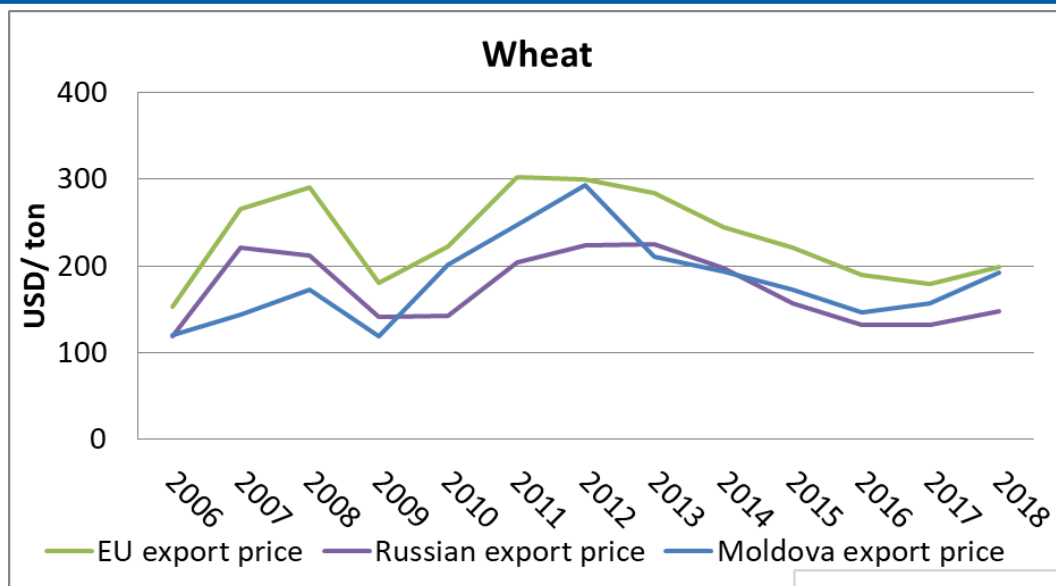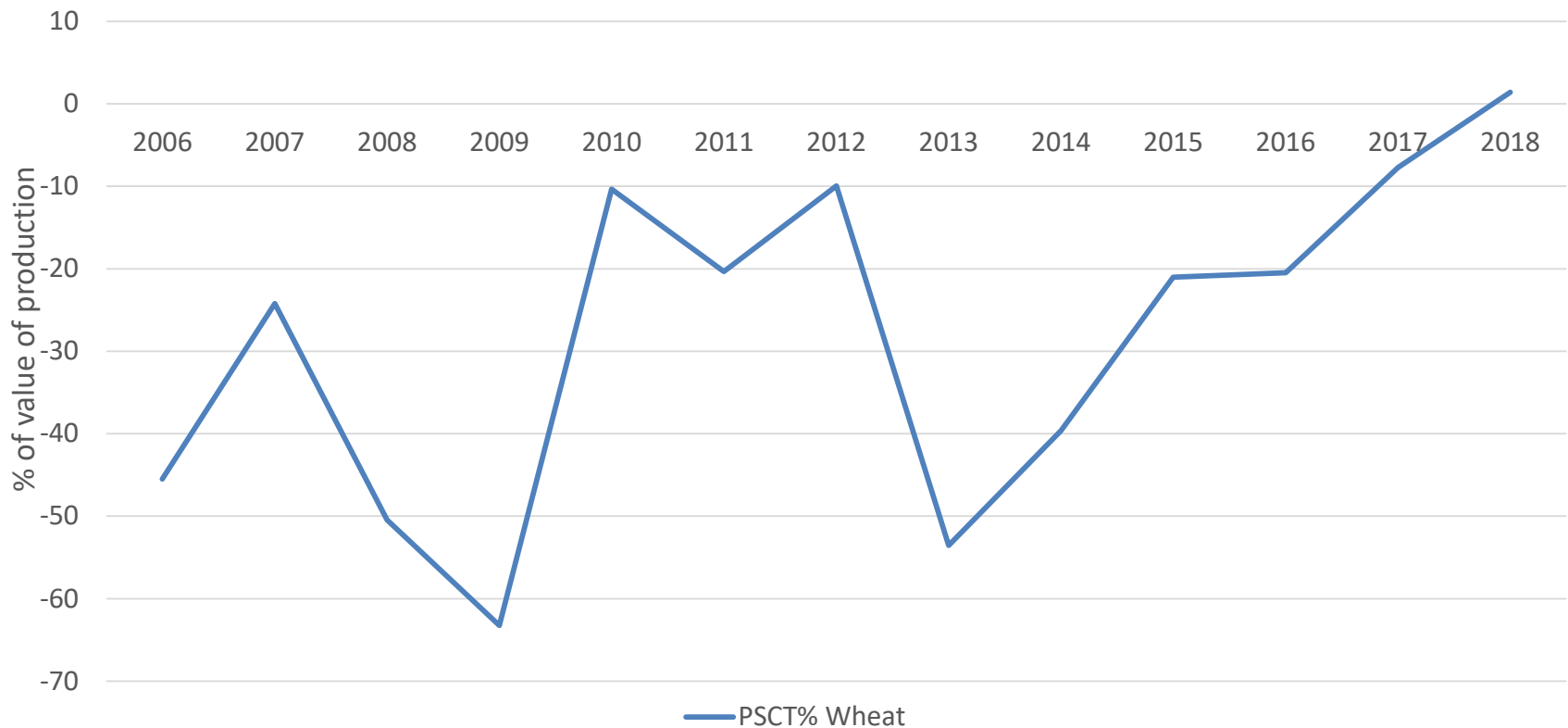
Farm

Ship

Mill

fob

cif

Illustration:
Choice of reference price (II)

Sources: Own computation based on European
Commission, OECD, Moldova Customs

Illustration:
Republic of Moldova - Wheat

Producer Single Commodity Transfer - Wheat

Source: Own computation based on OECD, Ministry of Agriculture, IMF

Unresolved issues

- Indirect ways of support
  - Tax preferences
  - Preferential treatment in social security system
- Feedback effects e.g. via exchange rates or relative factor prices

Summary

- Range of approaches to quantify agricultural policy support consistently

- Choice of approach driven by research objective

- More comprehensive measures – more data demanding

- Coverage of Central Asia and Caucasus countries quite limited

Further reading

- **Anderson, Kurzweil, Martin, Sandri, Valenzuela** (2008): Measuring Distortions to Agricultural Incentives, Revisited, World Bank, *Policy Research Working Paper No. 4612.* Washington D.C.: 44.
  - Updates of dataset: http://www.ag-incentives.org/ (unfortunately, low coverage of CIS countries)
- OECD Agricultural policy monitoring and evaluation: http://www.oecd.org/agriculture/topics/agricultural-policy-monitoring-and-evaluation/
- **Volk, Rednak, Erjavec, Rac, Zhllima, Gjeci, Bajramovic, Vasko, Kerolli-Mustafa, Gjokaj, et al.** (2019): Agricultural Policy Developments and EU Approximation Process in the Western Balkans, *JRC Technical Reports.* Luxembourg: Publications Office of the European Union.

Questions & Suggestions