Agricultural Development and Food Trade in Russia -- An International Comparison

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[based on joint work with Saule Burkitbayeva and Bill Liefert]

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STRUCTURAL TRANSFORMATION
AND AGRICULTURE
Agriculture in the Economy

The Global Relationship
Agricultural Transformation with Economic Growth
(Transition Countries 2015)

% of GDP

% of Employment

Income per person, by PPP (in 2011 $ adjusted for inflation and prices)
GROWTH AND PRODUCTIVITY IN AGRICULTURE
Patterns of productivity change in ECA

Productivity pattern in Russia

The graph illustrates the productivity pattern in Russia over the years 1992 to 2014. It shows the relationship between GAO per hectar of agricultural land (USD/ha) and GAO per worker employed in agriculture (USD/worker). The data points show a trend of increasing productivity over time, with notable years marked for comparison: 1992, 1996, 2002, 2006, and 2014.
Smallholders: Low Labor Productivity

Note: Smallholders refer to “farms with less than 2 ha of land” for CEE and "households" in CIS statistics.
Source: Swinnen and Burkitbayeva (2017).
Smallholders: Decline since 2005

**CIS**

*Figure 2* Evolution of the Share of Smallholders* in Land Use and Production in CIS 2000 – 2015
*(CIS Average % Change with 2000 = 0)*

- 15 %

**CEE**

*Figure 3* Evolution of the Share of Smallholders* in Land Use and Production in CEE 2003 – 2013
*(CEE Average % Change with 2000 = 0)*

- 50 %

Source: Own calculations based on National Statistics
* For definition of ‘smallholders’: see Table 1.

Source: Own calculations based on Eurostat data
* For definition of ‘smallholders’: see Table 1.
Evolution of Share of Smallholders in Land Use and Production in Russia

Russia (Area used)  Russia (Agricultural output)
Smallholders: Decline since 2005

CIS and Russia

Evolution of Share of Smallholders in Land Use and Production in CIS and Russia (2000-2015)

CEE

Evolution of Share of Smallholders in Land Use and Production in CEE (2003-2013)

Source: Own calculations based on National Statistics
“GRAIN BASKET OF THE WORLD” ?
PRODUCTION POTENTIAL
Imports and Exports of Food and Agricultural Products (2016 -- % of Agric Prod)

Note: Food and Live animals for food trade
Source: FAOstat, Atlas, Harvard University
Net Food Trade Balance, 1992-2016 (Exports-Imports as % of Ag GDP)

Note: Food and Live animals for
Source: FAOSTAT, Atlas, Harvard University
Evolution of the net cereal trade balance (1992-2016)

Note: net trade balance in grains = (export-import)/production). Three year moving average
Source: FAOstat
NEXT SLIDE: POSSIBLE TO UPDATE?
Production potential for grains in RUK

Land use

Fertilizer use

Yields

Climate

Total sowing area (Mln ha)

Production potential for grains in RUK

Grain yield (ton/ha)

Fertilizer use (kg/ha)
RUK : Bread Basket for the World/ECA ?
Potential for wheat production RUK

<table>
<thead>
<tr>
<th>INTENSIFICATION @ 60% of the Yield Potential</th>
<th>Base line</th>
<th>INTENSIFICATION</th>
<th>RECUULTIVATION</th>
<th>CLIMATE CHANGE + INTENSIFICATION</th>
<th>INTENSIFICATION + RECUULTIVATION + CLIMATE CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA (Mha) 2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>46,2</td>
<td>46,2</td>
<td>51,5</td>
<td>5,3</td>
<td>47,2</td>
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<td>16,1</td>
<td>16,9</td>
<td>0,9</td>
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<tr>
<td>Kazakhstan</td>
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<td>15,4</td>
<td>17,8</td>
<td>2,4</td>
<td>15,5</td>
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<td>Total</td>
<td>77,6</td>
<td>77,6</td>
<td>86,2</td>
<td>8,5</td>
<td>79,1</td>
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<tr>
<td>YIELDS (t/ha) 2008-2013</td>
<td></td>
<td>60% of Yp</td>
<td>80% of actual yields</td>
<td>60% of Yp</td>
<td>60% of Yp</td>
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<tr>
<td>Russia</td>
<td>2,1</td>
<td>2,3</td>
<td>2,0</td>
<td>1,6</td>
<td>2,3</td>
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<tr>
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<td>3,6</td>
<td>3,0</td>
<td>2,0</td>
<td>3,5</td>
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<tr>
<td>Kazakhstan</td>
<td>1,2</td>
<td>1,4</td>
<td>1,1</td>
<td>0,9</td>
<td>1,4</td>
</tr>
<tr>
<td>PRODUCTION (Mt)</td>
<td>TOTAL</td>
<td>GROWTH</td>
<td>TOTAL</td>
<td>GROWTH</td>
<td>TOTAL</td>
</tr>
<tr>
<td>Russia</td>
<td>95,0</td>
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<td>103,5</td>
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<td>21,2</td>
<td>4,0</td>
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<tr>
<td>Total</td>
<td>161,5</td>
<td>185,4</td>
<td>23,9</td>
<td>174,0</td>
<td>12,5</td>
</tr>
</tbody>
</table>

Source: Swinnen et al (2017) in Global Food Security
FOOD SECURITY
AND ITS POLICIES
Cereal Import Dependency Index

Imports as portion of domestic availability, 2000-2013

- Ukraine
- Russian Federation
- Kazakhstan
- Republic of Moldova
- Belarus
- Turkmenistan
- Uzbekistan
- Kyrgyzstan
- Azerbaijan
- Tajikistan
- Armenia
- Georgia

Source: FAOstat
Origin of Grain Imports (average of 2000-2013)

Source: FAOstat
Food Imports as % of Merchandise Export

Value of Food Imports in total merchandise exports (percent)

- Kazakhstan
- Kyrgyzstan
- Russian Federation
- Tajikistan
- Turkmenistan
- Uzbekistan
Export Volatility in RUK

Source: Sedik (2011)
Growth and Nutrition Transition

Income and Obesity prevalence

Obesity prevalence among Males (% of population over 18 years old)

Growth and Nutrition Transition

Income per person, by PPP (in $ 2011 adjusted for inflation and prices)
Agricultural Support Policies (PSE- US$)

Source: OECD
Source: OECD
Thank You
Main references


appendix
Remittances from Russia 2010-2017 (index 2010=100)

Change in total remittances, index (2010=100)

Dependence on Remittances (% of GDP)

Remittances as a share of GDP in 2013 (%)

Source: Akramov et al 2017
FOOD AND NUTRITION SECURITY POLICIES
Public Spending on Social Assistance Programs (% of GDP, 2014-15)

Note: no data for Uzbekistan; data for Russia and Tajikistan is for 2015; the other countries for 2014.
Food Safety Policies in Eurasia (WHO implementation indicators)

“the proportion/percentage of attribute (a set of specific elements or functions which reflect the level of performance or achievement of IHR potential hazards: Food Safety) that have been attained”

Source: WHO database
Agricultural Support Policies
(large differences between subsectors)
The 2014 Russian Sanctions (& Oil price decline)

- In 2012 Russia joined **WTO**. WTO accession implied significant market access conditions for other countries on the Russian market, and thus were to create increased competition for Russian producers of commodities such as meat, dairy and fruit and vegetables production.

- In 2014 **western sanctions** were imposed on Russia and Russia reacted with countersanctions

- The international sanctions, provided argumentation to the Russian government to implement **import bans of agricultural products** under its "**food security doctrine**".

- Domestic producers incomes increased; consumers faced the cost of the embargo as food inflation decreased disposable incomes and hence worsened food security.

- These trade policies may **expand regionally** through the Eurasian Economic Union
The Puzzling Relation with Import Dependency

Dependence on cereal imports

Imports as portion of domestic availability, 2000-2013

Ukraine
Russian Federation
Kazakhstan
Republic of Moldova
Belarus
Turkmenistan
Uzbekistan
Kyrgyzstan
Azerbaijan
Tajikistan
Armenia
Georgia

Self-sufficiency policy focus and import dependence (cereals)

Import dependence for cereals (average of 2000-2016)
"Anti-Trade Bias" of Agricultural Policy

Government Support (PSE %) and Net Trade by Commodity in 2017

Note: Net trade balance=(export-import)/production
Source: OECD and FAOstat
Value Chains and Food Security

• Value chains are very important elements of the transformation of agri-food chains

• Extensive documentations of changes and effects in the 1995-2005 period (eg WB 2005 Report)

• Relatively little recent evidence – a few interesting case studies.

• Very uneven development: policy matters!
Rise and Fall of Value Chains: Cotton in Kazakhstan

Cotton area and production in Kazakhstan (1991-2015)

Growth of private value chains

Government regulation of contracting

Source: official statistics