IFPRI’s Tracker to monitor export restrictions in the food and fertilizer domain

Link to the tracker
https://public.tableau.com/app/profile/laborde6680/viz/ExportRestrictionsTracker/FoodExportRestrictionsTracker
Tracker documentation:
For more information on our work on the Ukraine crisis:
https://www.ifpri.org/landing/war-ukraine-blog-landing-page

David Laborde & Abdullah Mamun
International Food Policy Research Institute
AMIS webinar | 4/13/2022
Based on existing experience

- Food Export restrictions tracker developed in the early month of the COVID-19 crisis. See Laborde, Mamun and Parent (2020)

- Large community of users
  - Other IOs and their various trackers: FAO, WFP, WTO
  - Academics, including the non-Ag Econ community (e.g. citations in Lancet)
  - News outlets, including Bloomberg
  - Used in many policy forum:
    - G20
    - WTO CoA
    - APEC and other regional summits

- This has led to strong requests by partners (e.g. WTO, USDA) and donors (USAID, FCDO) to reactivate this effort → Reactivation & improvements (e.g. Fertilizers)
Summary of the data process

News & Policy Monitoring

USDA: Stock and production data

IFPRI: Trade in Macro-Nutrient database + Trade in Fertilizer nutrient database

Every day
API 22 languages + Human

Food & Fertilizer Export restriction tracker

Updated on a daily basis if new information recorded
Food Export Restrictions during the Ukraine-Russia crisis:
(updated 4/12/2022 9:02:28 PM, check the About the tracker section)

Read more at: https://www.ifpri.org/blog/how-will-russia-s-invasion-ukraine-affect-global-food-security

Map on ALL policies during the year

Weekly changes in the number of active measures:

Policy Status
Active

Current restriction on global food markets

Share of Global Calorie Markets

0.00% 5.00% 10.00% 15.00% 20.00% 25.00% 30.00%
0 5 10 15 20 25 30
Number of countries

Category
Actual Ban Export Licensing

Select measures starting during the period:
03/03/2022 to 03/31/2022
and Null values
Share of exports restricted (Kcal) in total country exports

Share of country in global markets for restricted products (Kcal)

0.0% 5.5%
List of restrictions, size, and notification process

### List of Export Restrictions on Food Products

<table>
<thead>
<tr>
<th>Policy Status</th>
<th>Category</th>
<th>Country Label</th>
<th>Products</th>
<th>Start Date</th>
<th>End Date</th>
<th>Share of restricted products in total country food exports (expressed in % of total)</th>
<th>Share of restricted products in total country food exports (expressed in USD, annual basis)</th>
<th>Country Global Market Share (values in restricted products)</th>
<th>Country Global Market Share (values in total products)</th>
<th>Number of HSA restricted products where the country has a global market share (values above 5 percent)</th>
<th>USD value restricted (average)</th>
<th>WTO view</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Argentina</td>
<td>Soy flour, soybean oil</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>11.09%</td>
<td>11.04%</td>
<td>41.30%</td>
<td>39.30%</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4,008</td>
</tr>
<tr>
<td>Active</td>
<td>Kazakhstan</td>
<td>Wheat, wheat flour</td>
<td>04/02/2022</td>
<td>09/01/22</td>
<td>11.09%</td>
<td>11.04%</td>
<td>41.30%</td>
<td>39.30%</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4,008</td>
</tr>
<tr>
<td>Active</td>
<td>Russia</td>
<td>Sunflower oil</td>
<td>02/01/2022</td>
<td>09/01/22</td>
<td>7.30%</td>
<td>8.05%</td>
<td>17.08%</td>
<td>19.14%</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1,562</td>
</tr>
<tr>
<td>Active</td>
<td>Argentina</td>
<td>Beans, peas, lentils, rice, corn</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>2.02%</td>
<td>2.02%</td>
<td>2.02%</td>
<td>2.02%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>817</td>
</tr>
<tr>
<td>Active</td>
<td>Egypt</td>
<td>Vegetable oil, nuts, seeds</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>2.25%</td>
<td>2.06%</td>
<td>0.91%</td>
<td>0.91%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>517</td>
</tr>
<tr>
<td>Active</td>
<td>Hungary</td>
<td>Grains</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>9.05%</td>
<td>9.05%</td>
<td>0.91%</td>
<td>0.91%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>517</td>
</tr>
<tr>
<td>Active</td>
<td>Indonesia</td>
<td>Palm oil</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>74.56%</td>
<td>51.56%</td>
<td>84.28%</td>
<td>53.13%</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1,016</td>
</tr>
<tr>
<td>Active</td>
<td>Kuwait</td>
<td>Chicken meat</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>8.23%</td>
<td>8.23%</td>
<td>0.82%</td>
<td>0.82%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Active</td>
<td>Lebanon</td>
<td>Processed fruits and vegetables, milk, milk products</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>2.02%</td>
<td>2.02%</td>
<td>2.02%</td>
<td>2.02%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Active</td>
<td>Morocco</td>
<td>Sheep meat, beef</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Active</td>
<td>Russia</td>
<td>Grains</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>0.54%</td>
<td>0.54%</td>
<td>0.54%</td>
<td>0.54%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Active</td>
<td>Turkey</td>
<td>Beef meat, sheep meat, goats meat</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Active</td>
<td>Ukraine</td>
<td>Vegetable oil, nuts, seeds</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>15.45%</td>
<td>15.45%</td>
<td>15.45%</td>
<td>15.45%</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>868</td>
</tr>
<tr>
<td>Active</td>
<td>Ukraine</td>
<td>Olives</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>0.90%</td>
<td>0.90%</td>
<td>0.90%</td>
<td>0.90%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Active</td>
<td>Ukraine</td>
<td>Rapeseed</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>0.02%</td>
<td>0.02%</td>
<td>0.02%</td>
<td>0.02%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Active</td>
<td>Ukraine</td>
<td>Vegetable oil, nuts, seeds</td>
<td>03/10/2022</td>
<td>09/01/22</td>
<td>2.07%</td>
<td>2.07%</td>
<td>2.07%</td>
<td>2.07%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>241</td>
</tr>
</tbody>
</table>

### Notification process at the WTO - 2022 Ukraine crisis episode

**Food products**

- **Argentina**: Beef meat
- **Egypt**: Vegetable oil, nuts, seeds
- **Hungary**: Grains
- **Indonesia**: Palm oil
- **Kazakhstan**: Wheat, wheat flour
- **Kuwait**: Chicken meat
- **Lebanon**: Processed fruits and vegetables, milk, milk products
- **Morocco**: Sheep meat, beef
- **Russia**: Grains
- **Turkey**: Beef meat, sheep meat, goat meat
- **Ukraine**: Vegetable oil, nuts, seeds

**WTO view**

- No
- Yes
- Yes
- No
- No
- No
- No
- Yes
- Yes
- Yes

**Food products**

- **Argentina**: Soy flour, soybean oil
- **Egypt**: Vegetable oil, nuts, seeds
- **Hungary**: Grains
- **Indonesia**: Palm oil
- **Kazakhstan**: Wheat, wheat flour
- **Kuwait**: Chicken meat
- **Lebanon**: Processed fruits and vegetables, milk, milk products
- **Russia**: Sheep meat, beef
- **Turkey**: Sheep meat, goat meat

**WTO view**

- No
- No
- No
- No
- No
- No
- No
- No
- No
### Timeline and comparison with previous crisis

#### Number of countries implementing Food Export restrictions and associated share in global trade of calories

<table>
<thead>
<tr>
<th>Week of the year</th>
<th>Share of global trade of cal. %</th>
<th>Number of countries implementing export restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>30</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>35</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>40</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>45</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>50</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Episode
- **UkraineCrisis[2022]**
- **Covid-19[2020]**
- **FoodPriceCrisis[2008]**

#### Food Export Restrictions during the Ukraine crisis (2022): Period of implementation by country

<table>
<thead>
<tr>
<th>Food products</th>
<th>Algeria</th>
<th>Argentina</th>
<th>Azerbaijan</th>
<th>Belarus</th>
<th>Egypt</th>
<th>Ghana</th>
<th>Hungary</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual Ban</td>
<td>Act as Ban</td>
<td>Export Licensing</td>
<td>Export Licensing</td>
<td>Act as Ban</td>
<td>Act as Ban</td>
<td>Act as Ban</td>
<td>Act as Ban</td>
</tr>
</tbody>
</table>

Measures with an ending date indicated are considered to end on December 31st, 2022.
Exporter profile tracker

Select a country: Egypt

Food Export Restrictions implemented by Egypt

<table>
<thead>
<tr>
<th>Category / Products</th>
<th>Actual Ban</th>
<th>Estimated Number of Days of restriction</th>
<th>Export Rises impacted in Bn-Kcal</th>
<th>Country Global Market Share (Kcal) in restricted products</th>
<th>Country Global Market Share (USD) in restricted products</th>
<th>Share in World Market of Calories</th>
<th>Share of restricted products in total country food exports (expressed in Kcal, annual basis)</th>
<th>Share of restricted products in total country food exports (expressed in USD, annual basis)</th>
<th>Production</th>
<th>Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables, roots, grapes, fruits</td>
<td></td>
<td>92</td>
<td>473</td>
<td>0.08%</td>
<td>0.34%</td>
<td>0.00%</td>
<td>2.65%</td>
<td>0.36%</td>
<td>7,083 KMT</td>
<td>1,304 KMT</td>
</tr>
</tbody>
</table>

Stock-to-Use Ratio Corn

Stock-to-Use Ratio Wheat

Stock-to-Use Ratio Rice
Impact on Food Importers

Share of restrictions on imported calories - during the peak of measures

Share of restrictions on imported calories - currently

- Tajikistan
- Azerbaijan
- Uzbekistan
- Georgia
- India
- Turkmenistan
- Egypt
- Armenia
- Syria
- Kyrgyzstan
- Lebanon
- Albania
- Oman
- Sudan
- Uganda
- Eritrea
- Pakistan
- Bangladesh
- Iraq
- Libya
- Tunisia
- Mongolia
- Turkey

Share of import calories impacted by restrictions: 77%
Impact on Fertilizer Importers

Share of restricted fertilizers imports - Current

Share of restrictions on imported nitrogenous - during the peak of measures

Share of restrictions on imported phosphates - during the peak of measures

Share of restrictions on imported potash - during the peak of measures
Dataset is **documented** and underlying information could be **downloaded** (based on daily updates) in CSV format.
Ongoing issues, next steps and utilizations

- Tracker generates information for other tools (e.g. fertilizer dashboard, or vulnerability analysis)
- Classification of measures remains somewhat subjective: licensing vs bans
- Difficulty to track the phasing out of the measures
- Additional automation on its way
  - Multi-language coverage of the tool still imperfect: need more support to “clear” the translation of key words
- New “dataset” on quota size: are measures binding or not?
Add-on
Step by Step process: news collection, verification, documentation and augmentation (indicators computation)

1. Notification
   - Google Alerts in 5 UN languages
   - News API
   - Network Contributions
   - Crowd-Sourced Contributions Via Google Form

2. Verification
   - Official legislation
   - Extended news reviews sources
   - WTO notification
   - Google Translate used to search in various languages
   - Google Translate extension used to translate content

3. Documentation
   - Policy information is entered manually into a Google Sheet
   - IFPRI Trade and Nutrition Database
   - IFPRI fertilizer Database
   - Processing in R

4. Augmentation
   - Tracker
Increasingly automatized process. Extension to 27 languages
Possibility to extensive use of AI and ML

1. Notification
   - WTO notification
   - Crowdsourced contributions via Google Form

2. Verification
   - Official legislation
   - Extended news reviews sources
   - WTO notification
   - Google Translate used to search in various languages
   - Google Translate extension used to translate content

3. Augmentation
   - Policy information is entered manually into a Google Sheet
   - IFPRI Trade and Nutrition Database
   - IFPRI fertilizer Database

4. Processing in R

Tracker
TMI? (or never enough?)

Key message: Sustainability of the tool requires increased use of automation, and Machine Learning techniques.