Food and Agriculture Organization
of the United Nations

The impacts of the war in Ukraine on agrifood systems

Keynote presentation

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FAO Regional Conference for Europe

Łódź, Poland, 10-13 May 2022

The basic risks for Ukraine and the global food economy

1. Food and Agriculture

2. Macro

3. Humanitarian

Input supplies
(seeds, feeds, pesticides, fertilizer)

Production
Yield/area risk

Energy
Inputs and biofuels

Food

Trade
exports

Prices
Food inflation, WM prices

Debt, growth and exchange rates

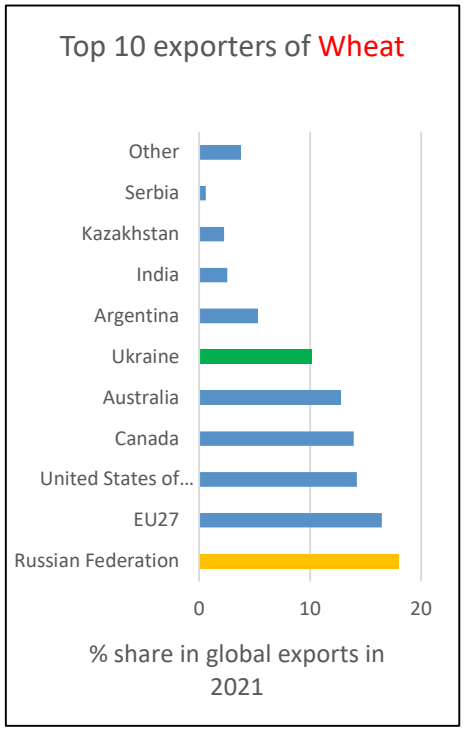
Migration and refugees

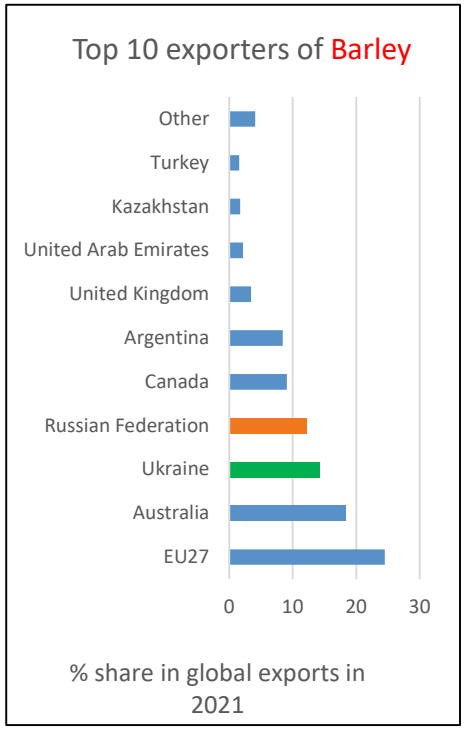
Logistics and infrastructure,
Ports, roads, storage

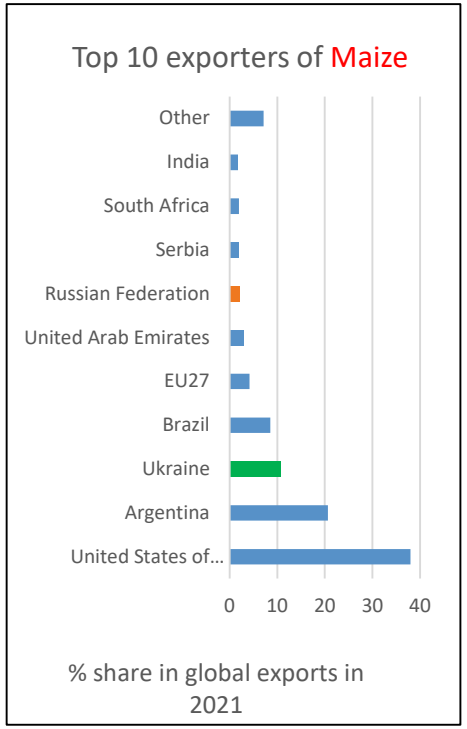
Disease proliferation (ASF)

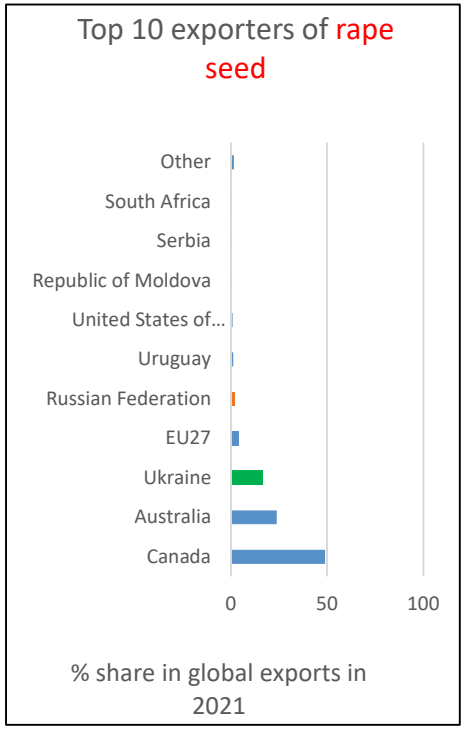
Nuclear contamination

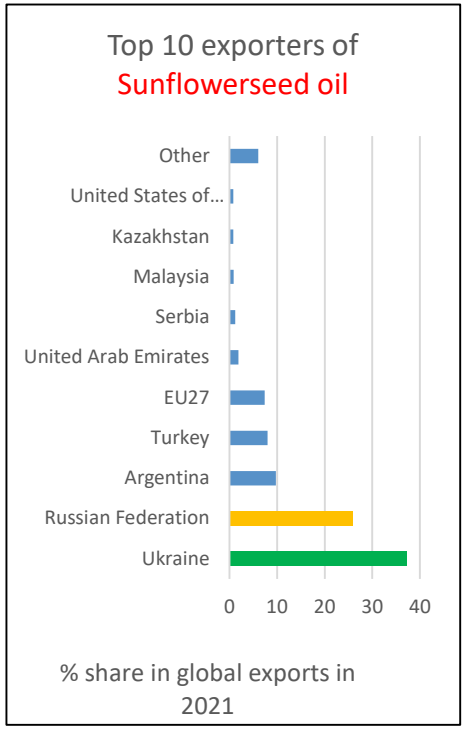
Ukraine and Russian Federation: important sources of global food supplies





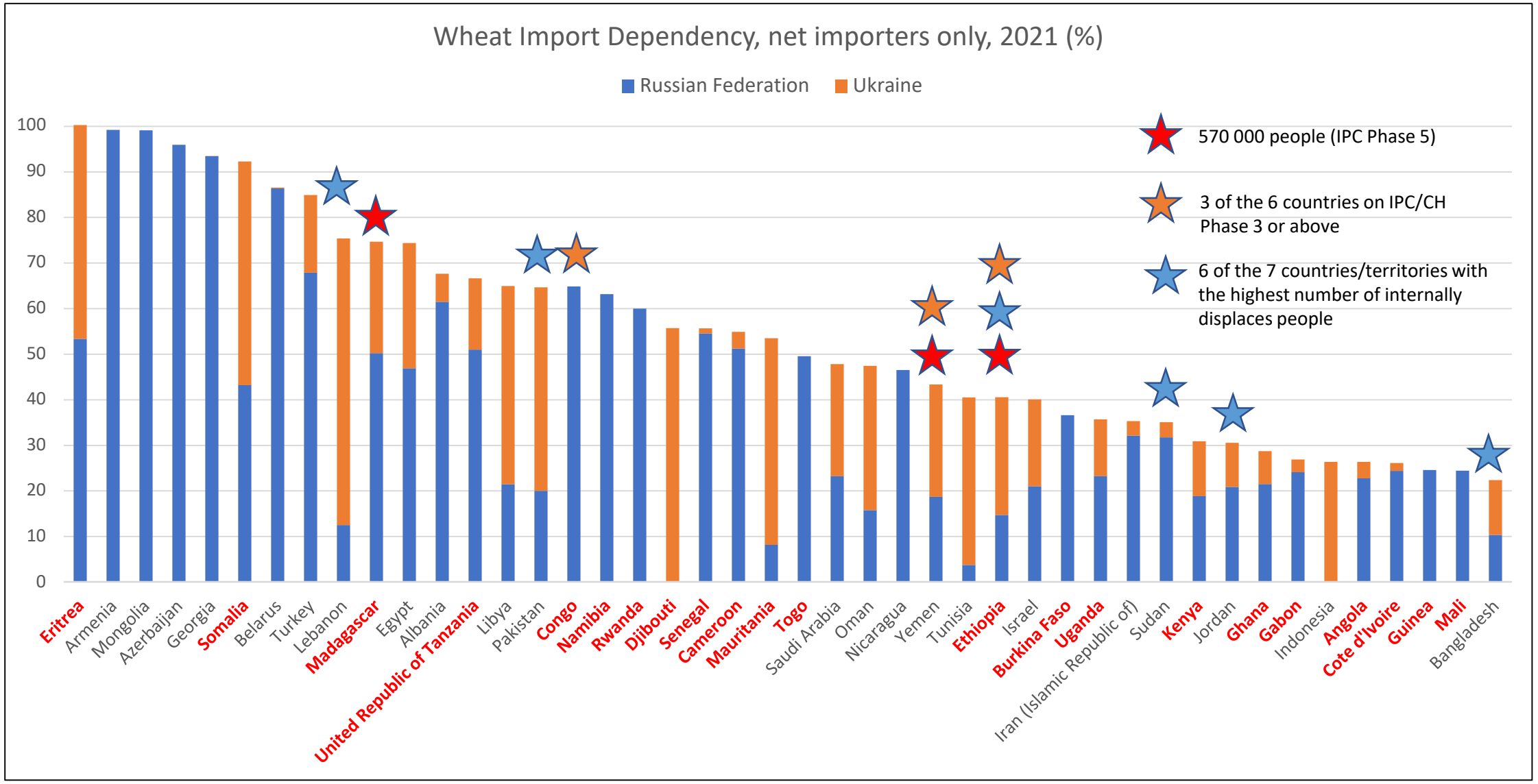


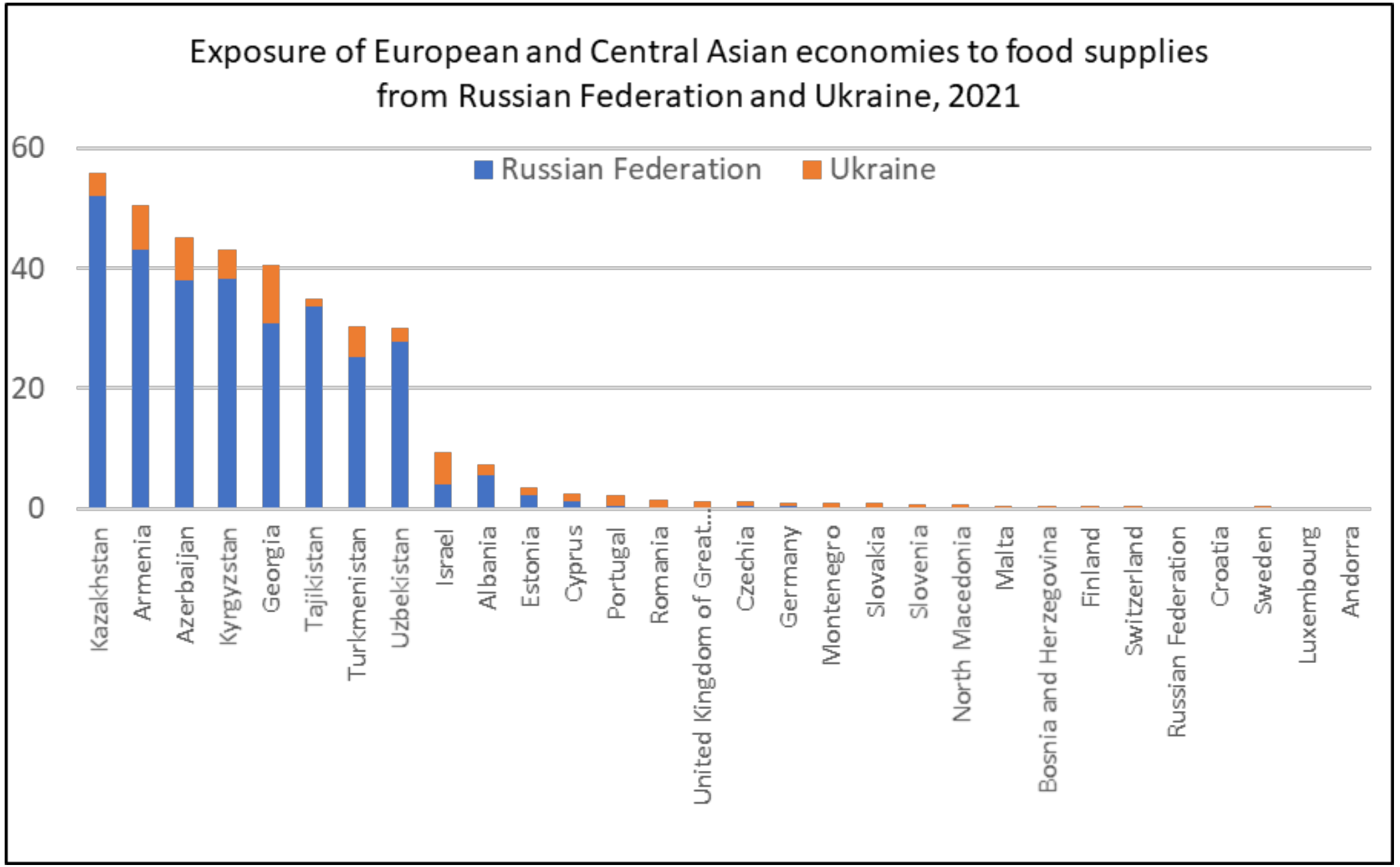




Some countries are heavily reliant on wheat imports from Ukraine and the Russian Federation

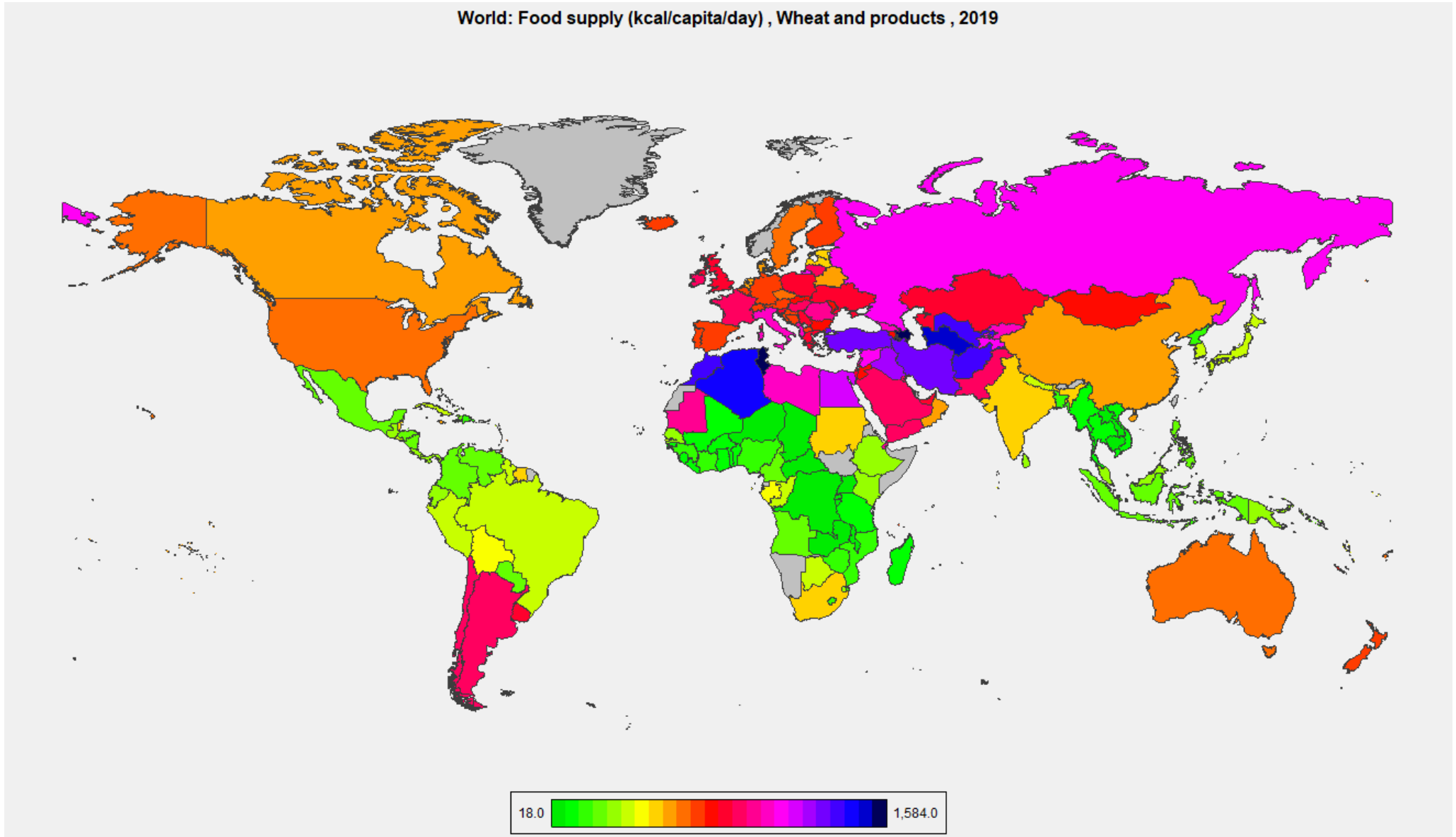
Countries in SSA are marked in red




Exposure of European and Central Asian economies to food supplies from Russian Federation and Ukraine, 2021
60
40
20
0
Russian Federation
Ukraine
Kazakhstan
Armenia
Azerbaijan
Kyrgyzstan
Georgia
Tajikistan
Turkmenistan
Uzbekistan
Israel
Albania
Estonia
Cyprus
Portugal
Romania
United Kingdom of Great...
Czechia
Germany
Montenegro
Slovakia
Slovenia
North Macedonia
Malta
Bosnia and Herzegovina
Finland
Switzerland
Russian Federation
Croatia
Sweden
Luxembourg
Andorra

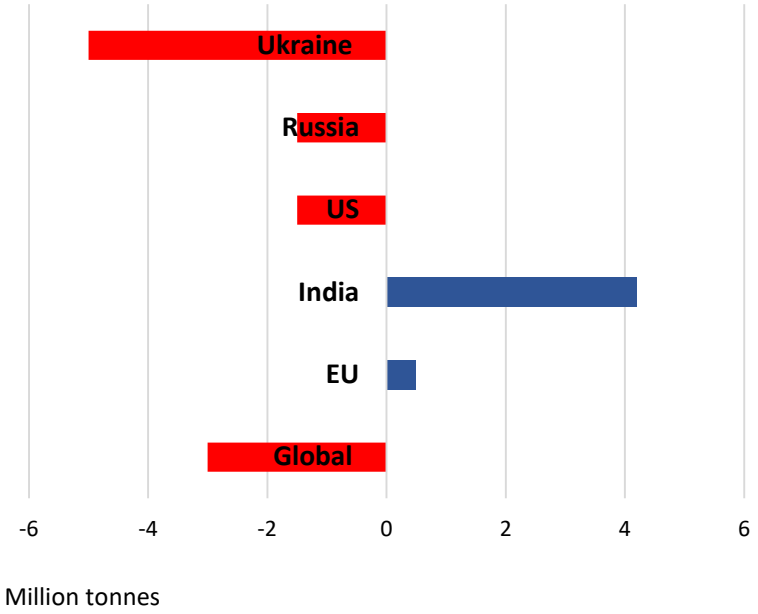

Share of wheat imports from Russian Federation and Ukraine in total wheat imports, 2021, among ECA net importers
Russian Federation
Ukraine
100
90
80
70
60
50
40
30
20
10
0
Armenia
Azerbaijan
Georgia
Belarus
Turkey
Albania
Kyrgyzstan
Israel
Greece
Malta
Cyprus
Norway
Italy
Spain
United Kingdom of...
Switzerland
Netherlands
North Macedonia
Uzbekistan
Turkmenistan
Tajikistan
Ireland
Belgium

Wheat is a staple food in North Africa, but NOT so important for most countries in sub-Saharan Africa

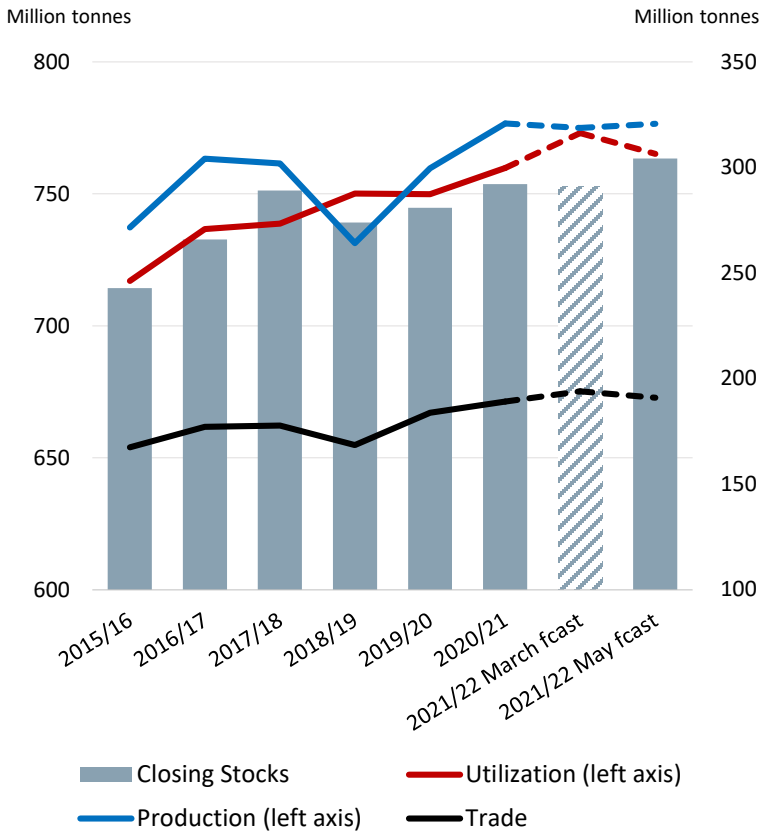


Developments in the Global Wheat Market

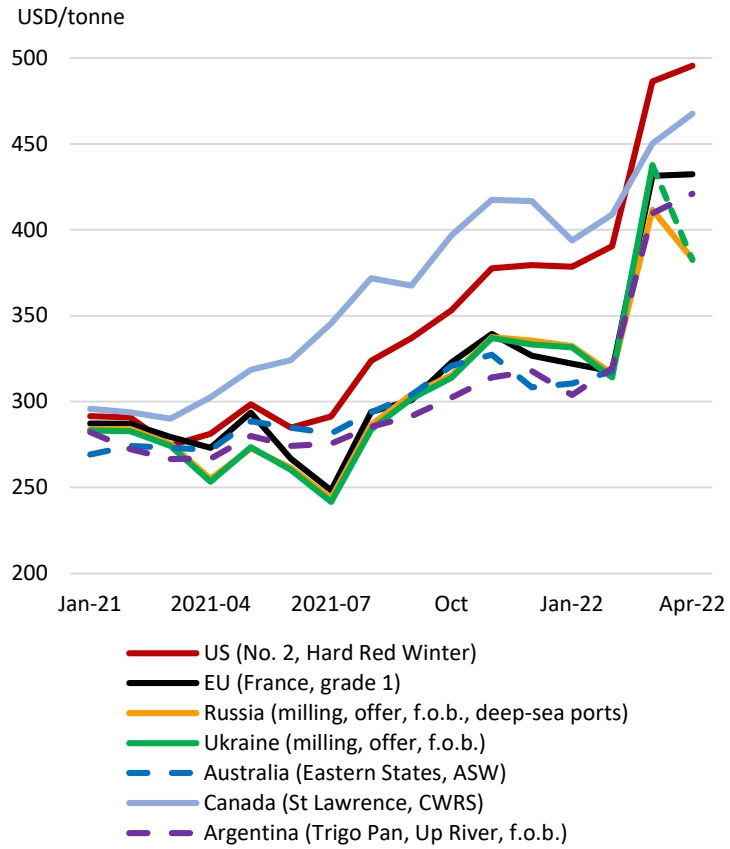
Change in 21/22 wheat export forecasts since Ukraine conflict



Global wheat overview

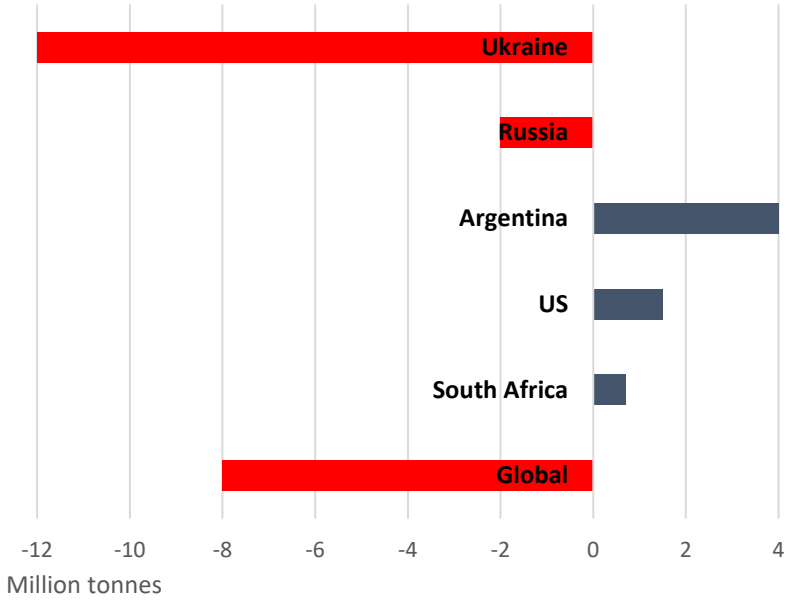


Wheat export prices

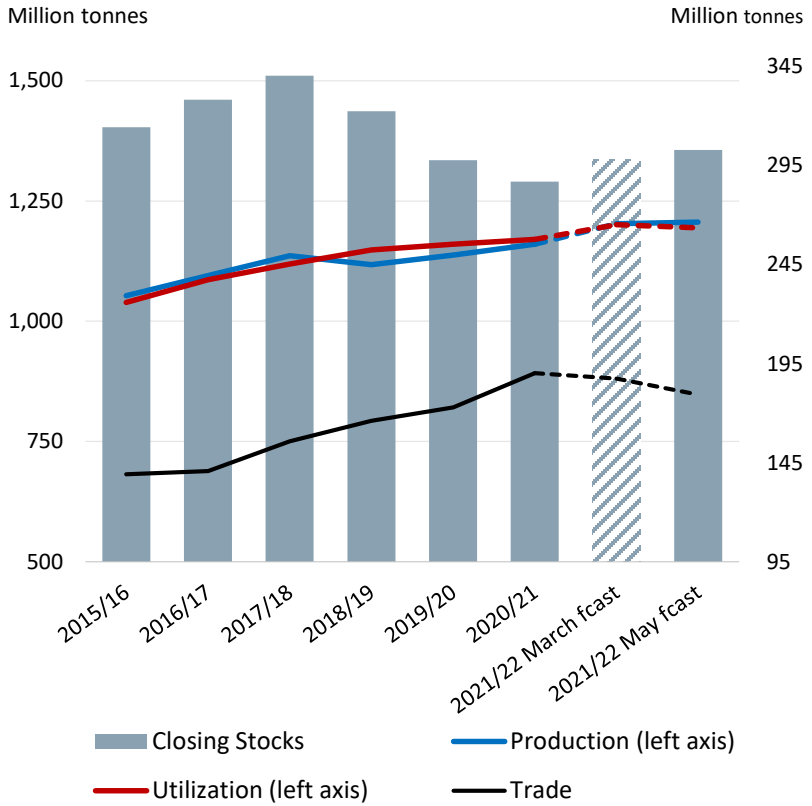


Developments in the Global Maize Market

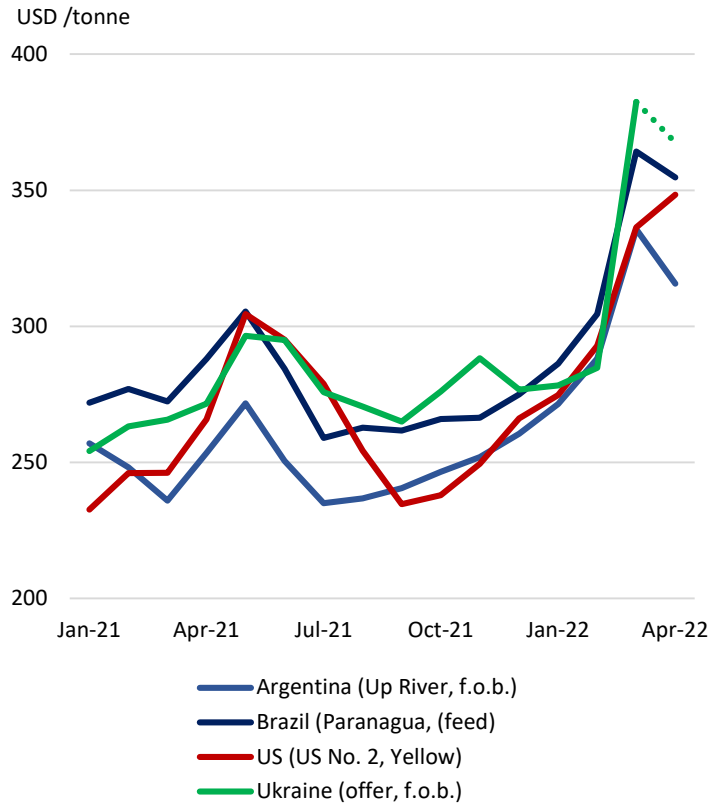
Change in 21/22 maize export forecasts since Ukraine conflict



Global maize overview

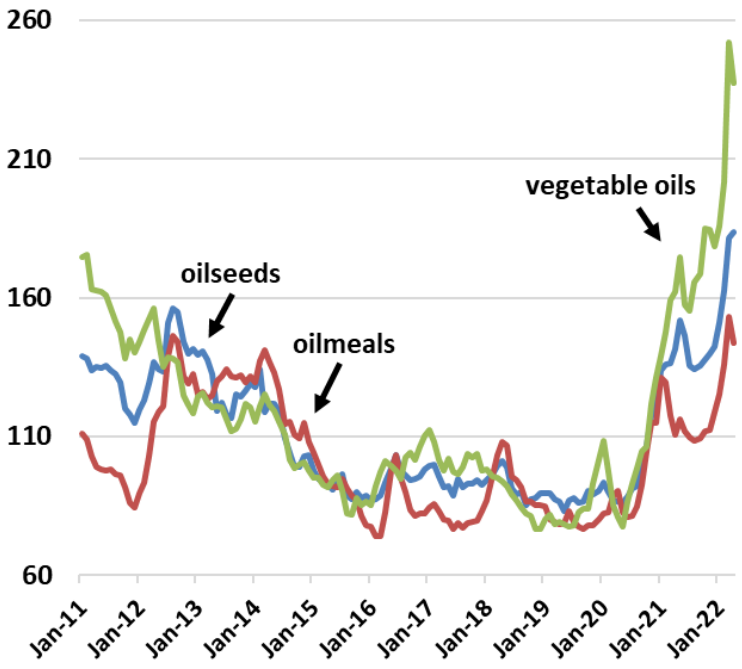


Maize export prices

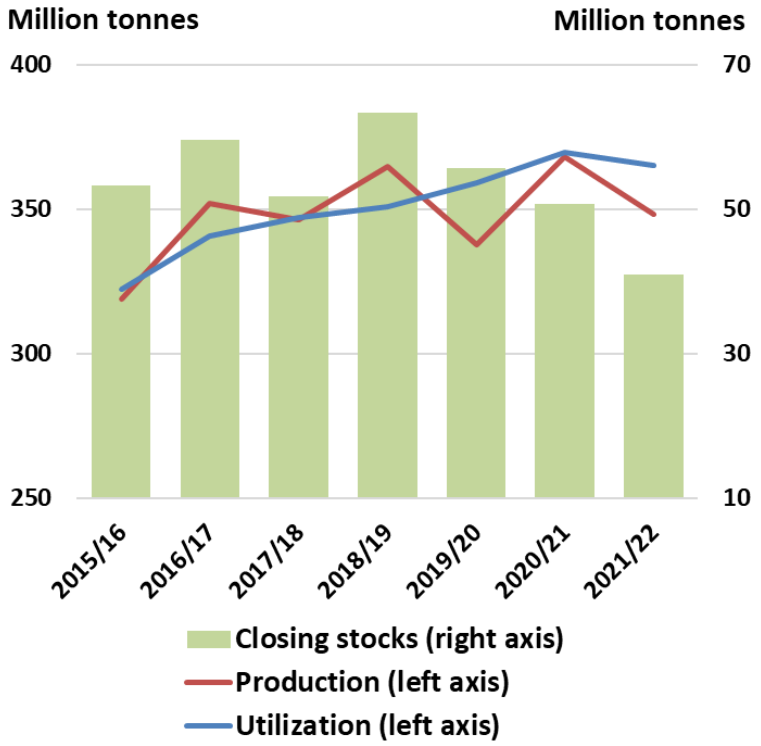


Developments in the Global Oilcrops Market

FAO Price Indices for Oilseeds, Oils, and Oilmeals
(2014-2016 = 100)



Global soybean overview



Vegetable Oil Export Shares

Share in global sunflower oil exports (Oct/Sep)

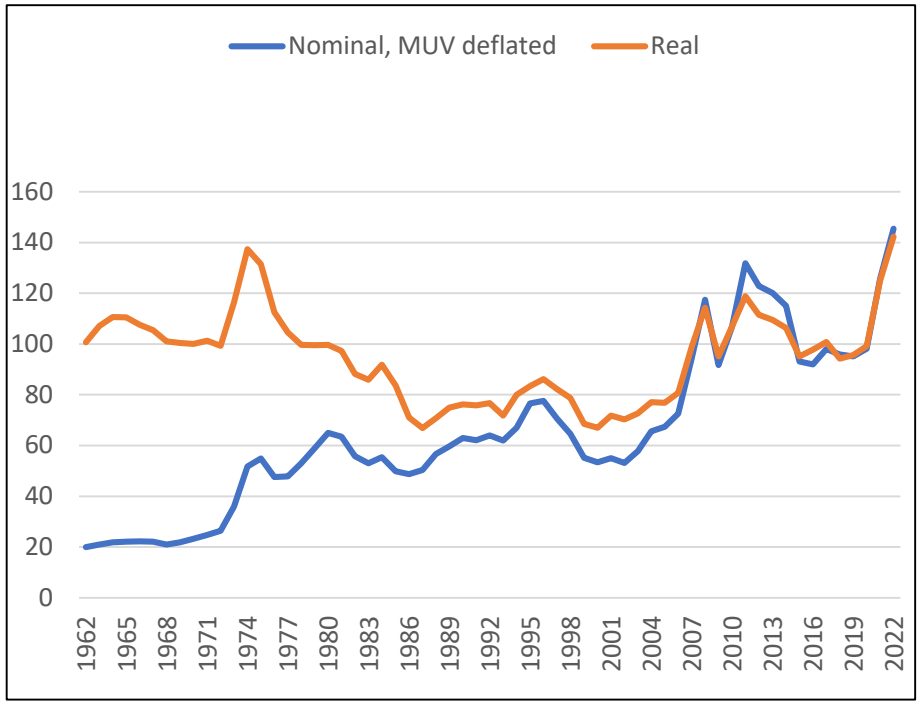
	2018/19	2019/20	2020/21	average
Ukraine	54%	52%	48%	51%
Russia	25%	28%	30%	27%
Total	78%	80%	77%	79%

Share in global palm oil exports (Oct/Sep)

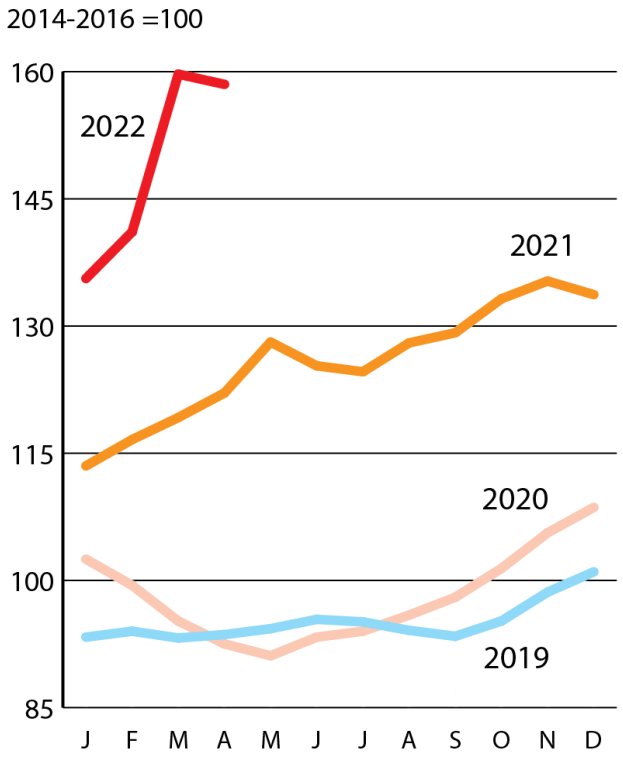
	2018/19	2019/20	2020/21	average
Indonesia	55%	55%	58%	56%
Malaysia	34%	34%	31%	33%
Total	89%	90%	89%	89%

The FAO Food Price Index Remains High

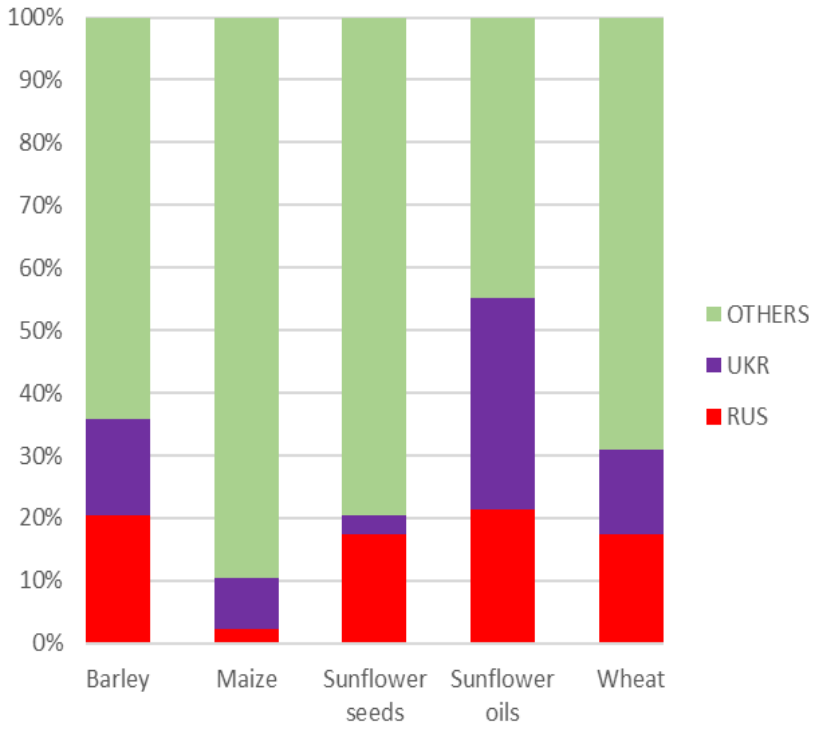
FAO Food Price Index in nominal and real terms 2014-2016 = 100



FAO Food Price Index (2019-2022)



Global market shares (quantities) of key agricultural commodities (percent, 2021)



Gauging the possible effects of trade risks on world market prices

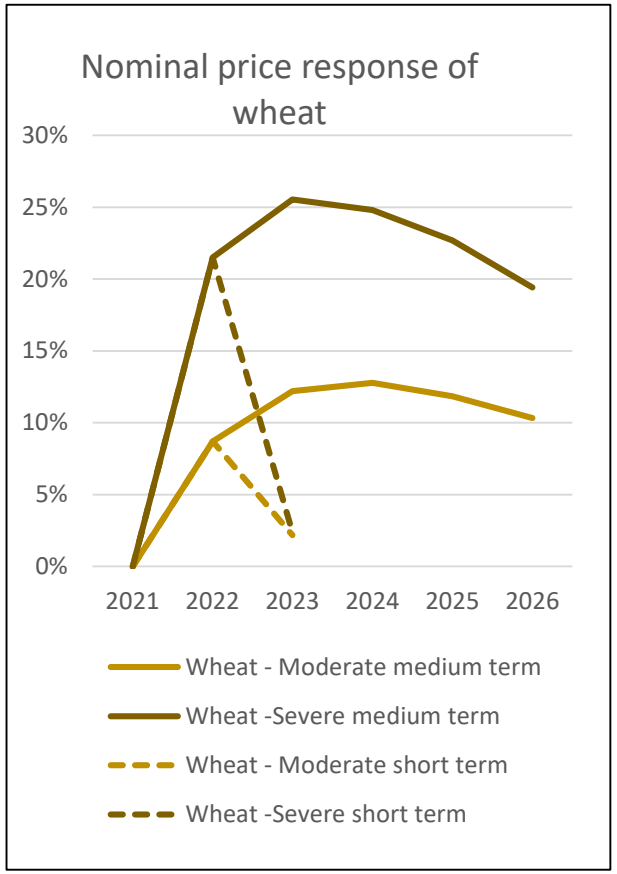
- Scenarios were simulated to account for a range of conceivable export developments:

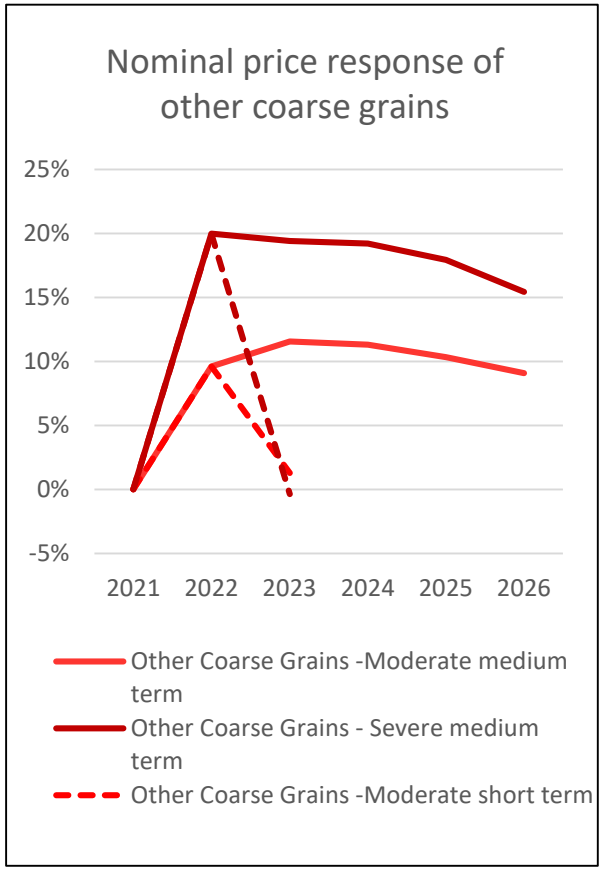
	Moderate shock	Severe shock
Wheat	-10 mmt	-25 mmt
Maize	-10 mmt	-25 mmt
Other coarse grains	-2.5 mmt	-5 mmt
Other oil seeds	-1.5 mmt	-3 mmt

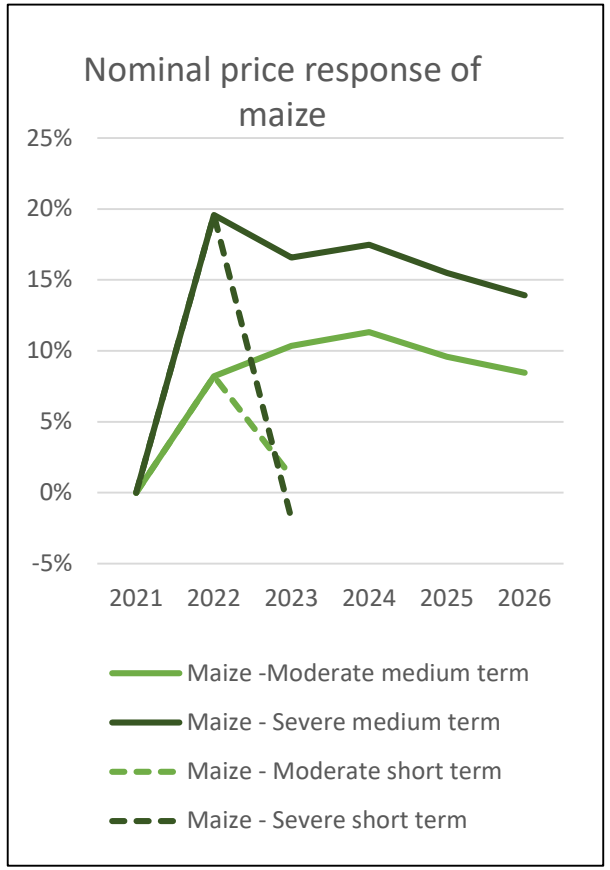
- Both shocks were simulated to assess their impact for only the 2022/23 marketing year and alternatively for five successive seasons.
- Reference crude oil prices would reach USD 100 per barrel in 2022/23up from an initial baseline value of USD 75 per barrel, and maintained in real terms for five seasons.

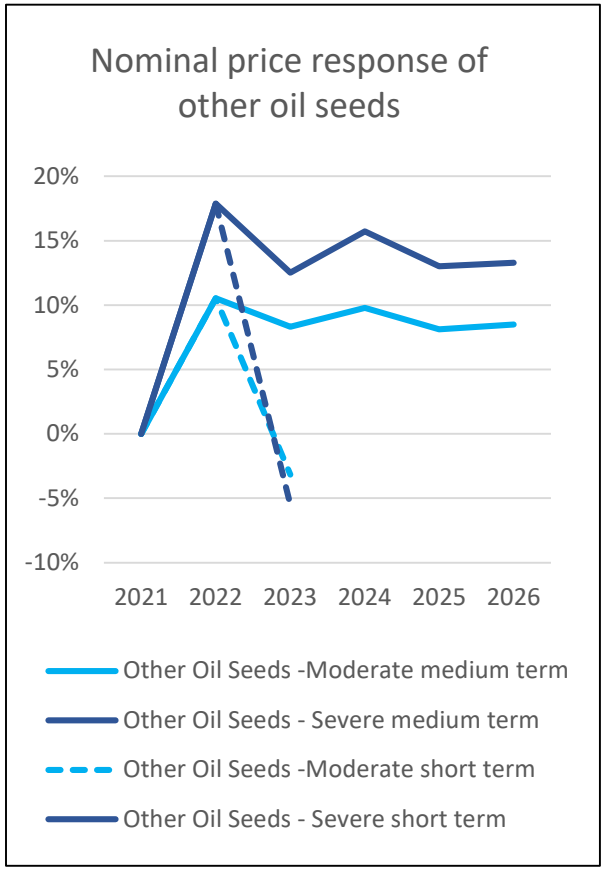
Other coarse grains are barley, rye, oats, sorghum, and millet. Other oilseeds encompass rapeseed, sunflower and groundnut.

WM price risks: short and medium term, moderate and severe supply disruptions





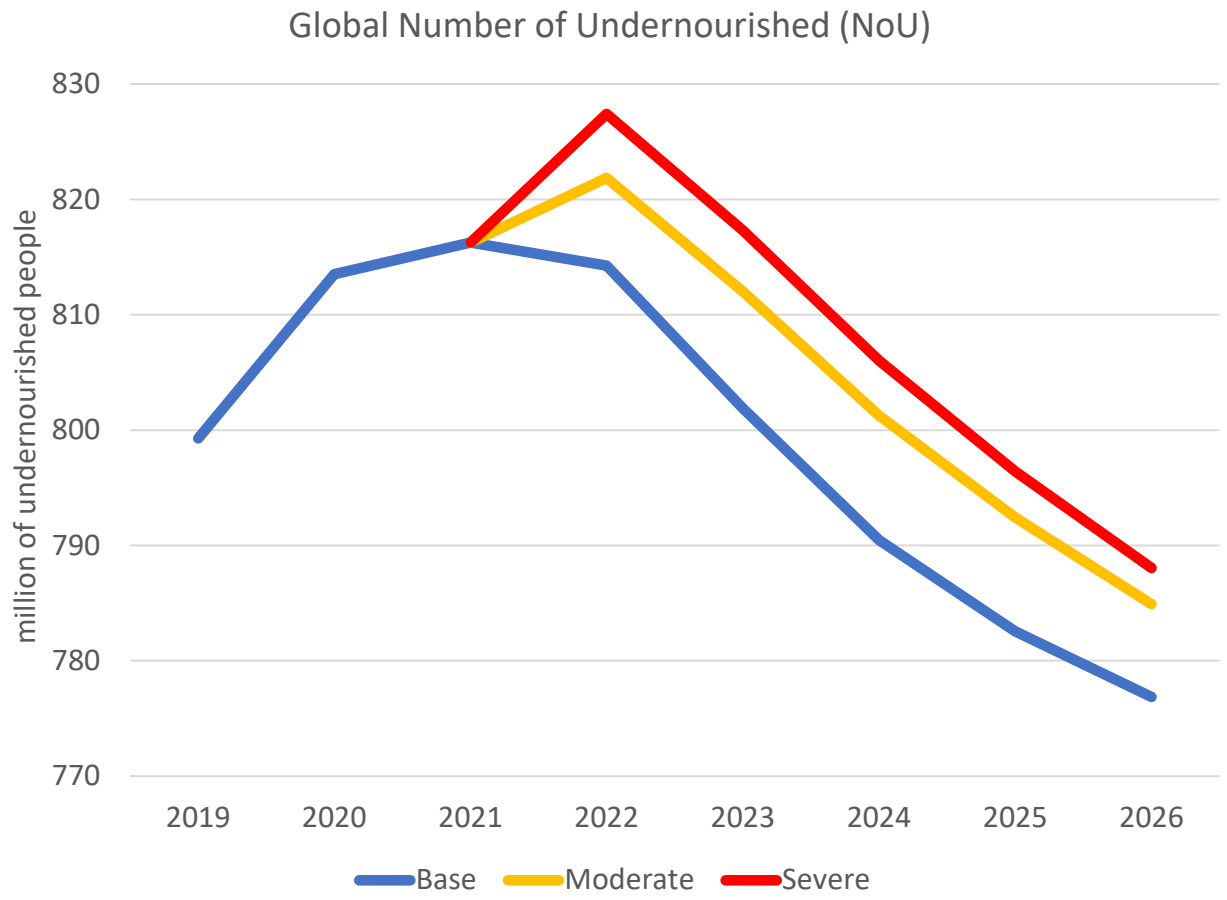




Source: FAO, Cosimo

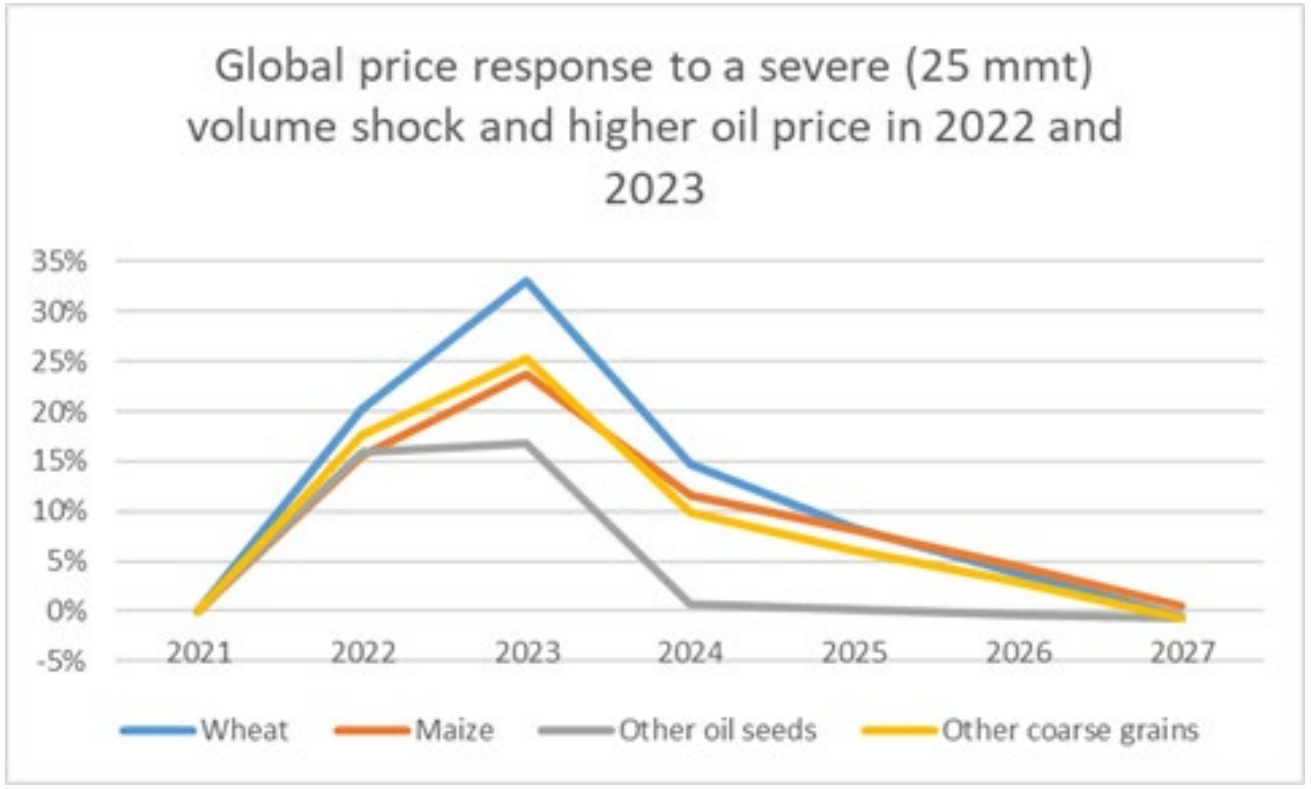
Gauging the possible effects on international food security

- Globally, under the moderate shock scenario, the number of undernourished people would increase by 7.6 million people, while this level would rise to 13.1 million people under the more severe shock setting in 2022/23.
- A prolonged high energy cost and export shortfall scenario, would keep the number of undernourished by 8.1 million people above baseline levels in a moderate shock and by 11.2 million in a severe scenario.
- Additional upward pressure on international food commodity prices impacts in particular low-income food-deficit countries (LIFDCs).

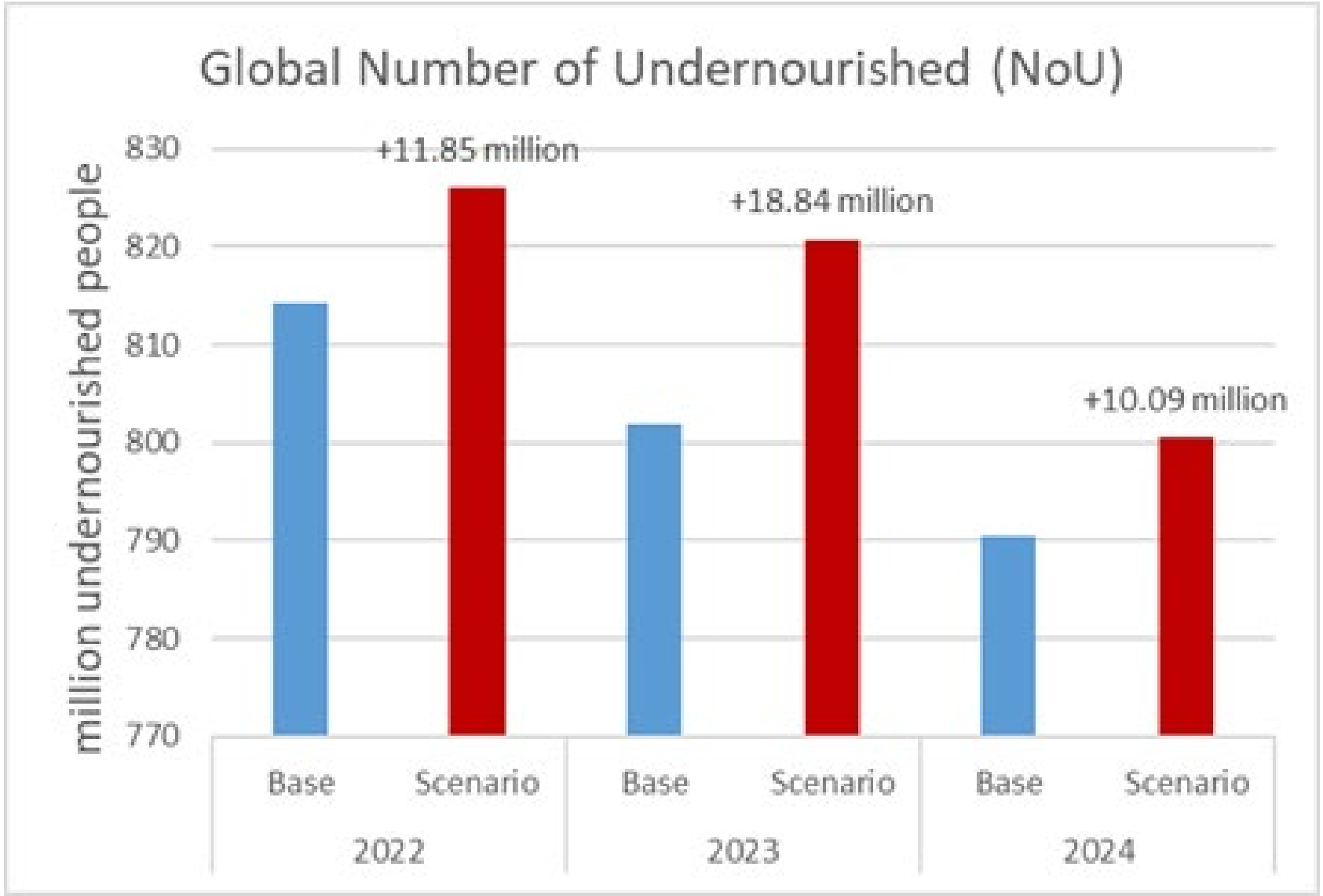


Gauging the possible effects on international food security extreme scenario with no supply response

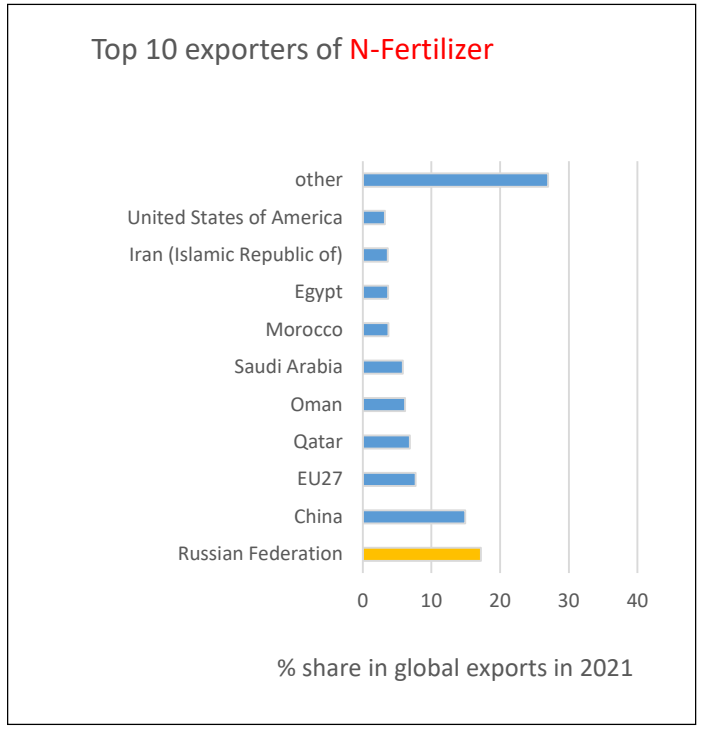
- Baseline is updated
- Crude oil price is elevated to 100$, from base of about 70$ during these two years.
- Production response for the shocked cereals and oilseeds is blocked, other crops like rice or soybeans, as well as the livestock sector are responding to the change in prices.
- This fixed production arrangement also keeps prices elevated for longer after the shock is removed, in order to bring livestock and crop sectors into baseline equilibrium again

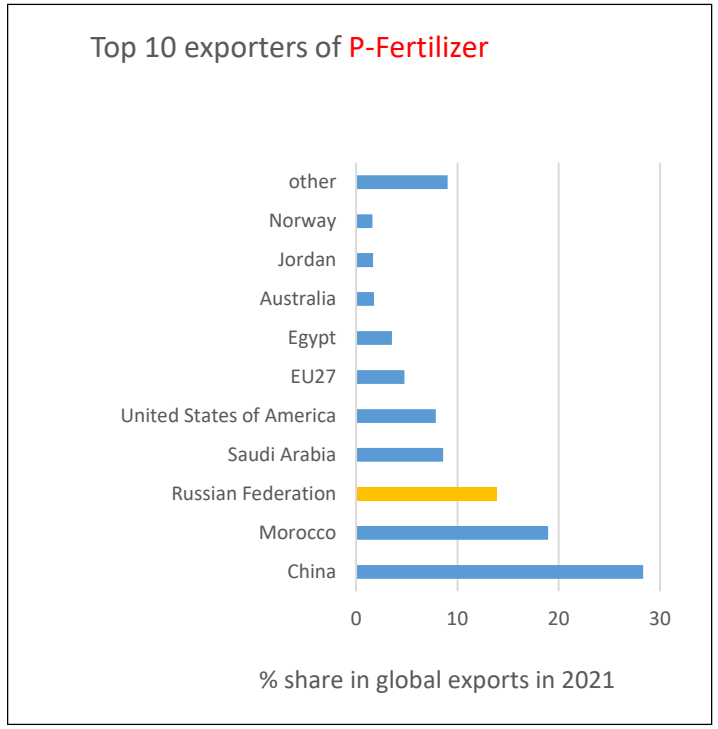


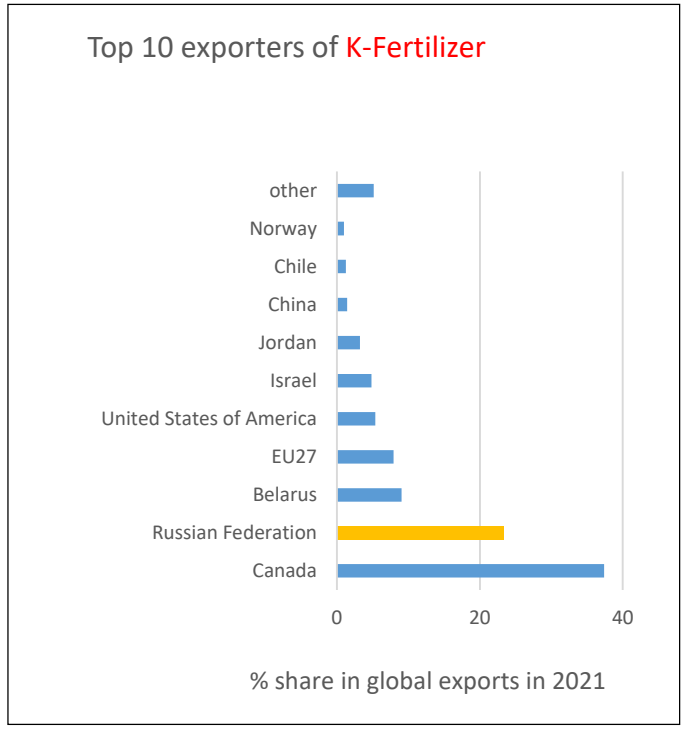
Gauging the possible effects on international food security extreme scenario with no supply response



The Russian Federation: The most important source of global fertilizer supplies

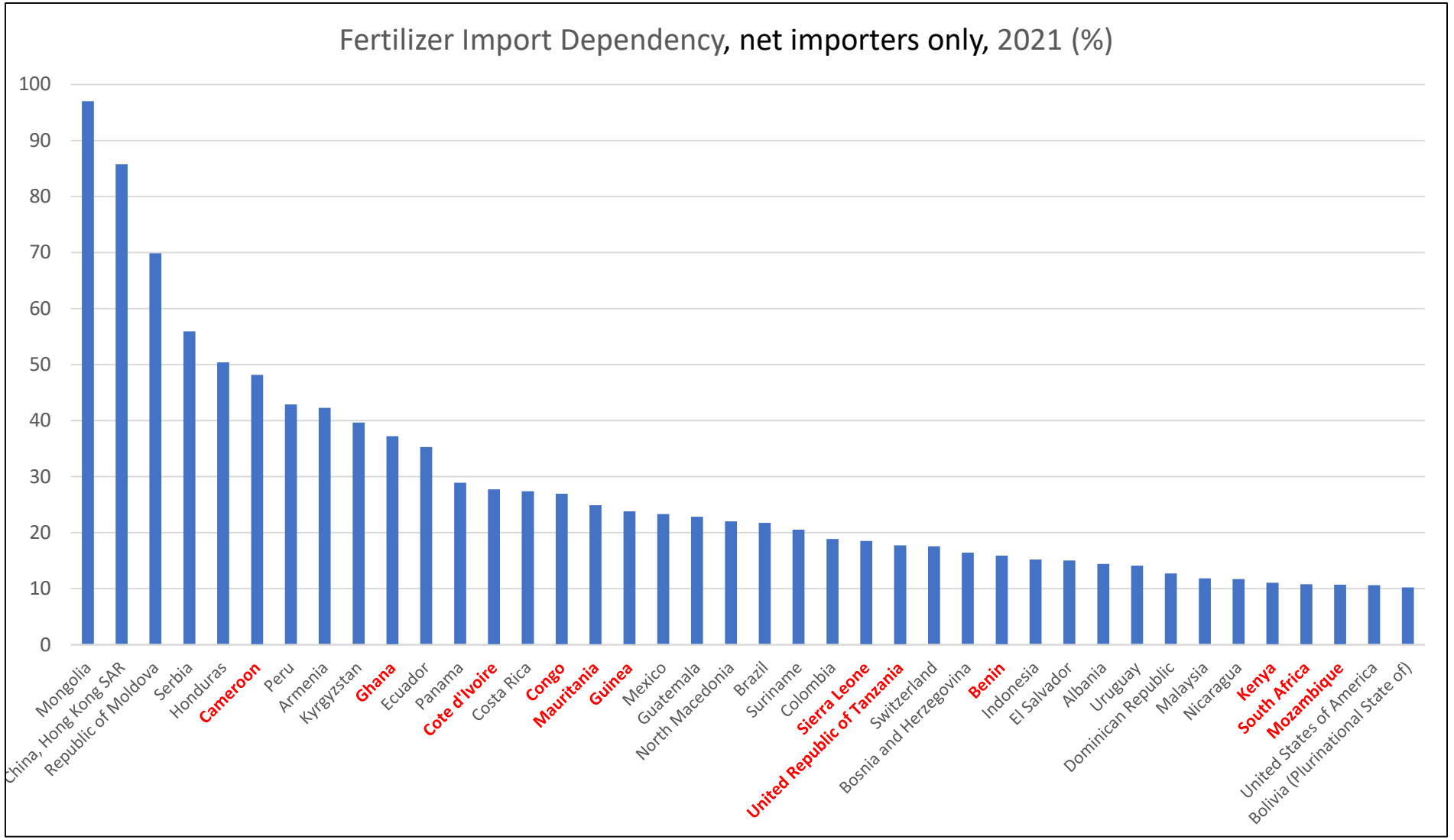


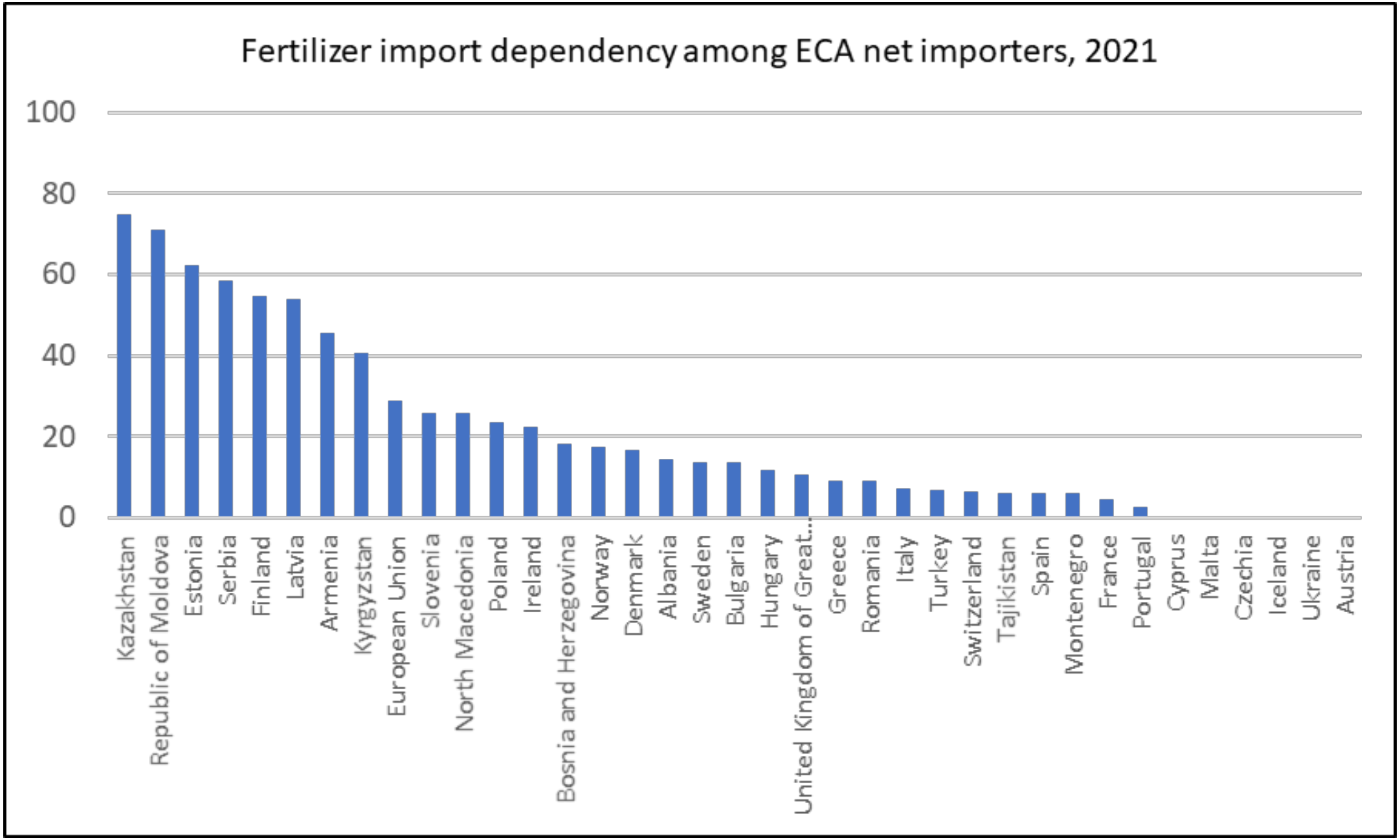




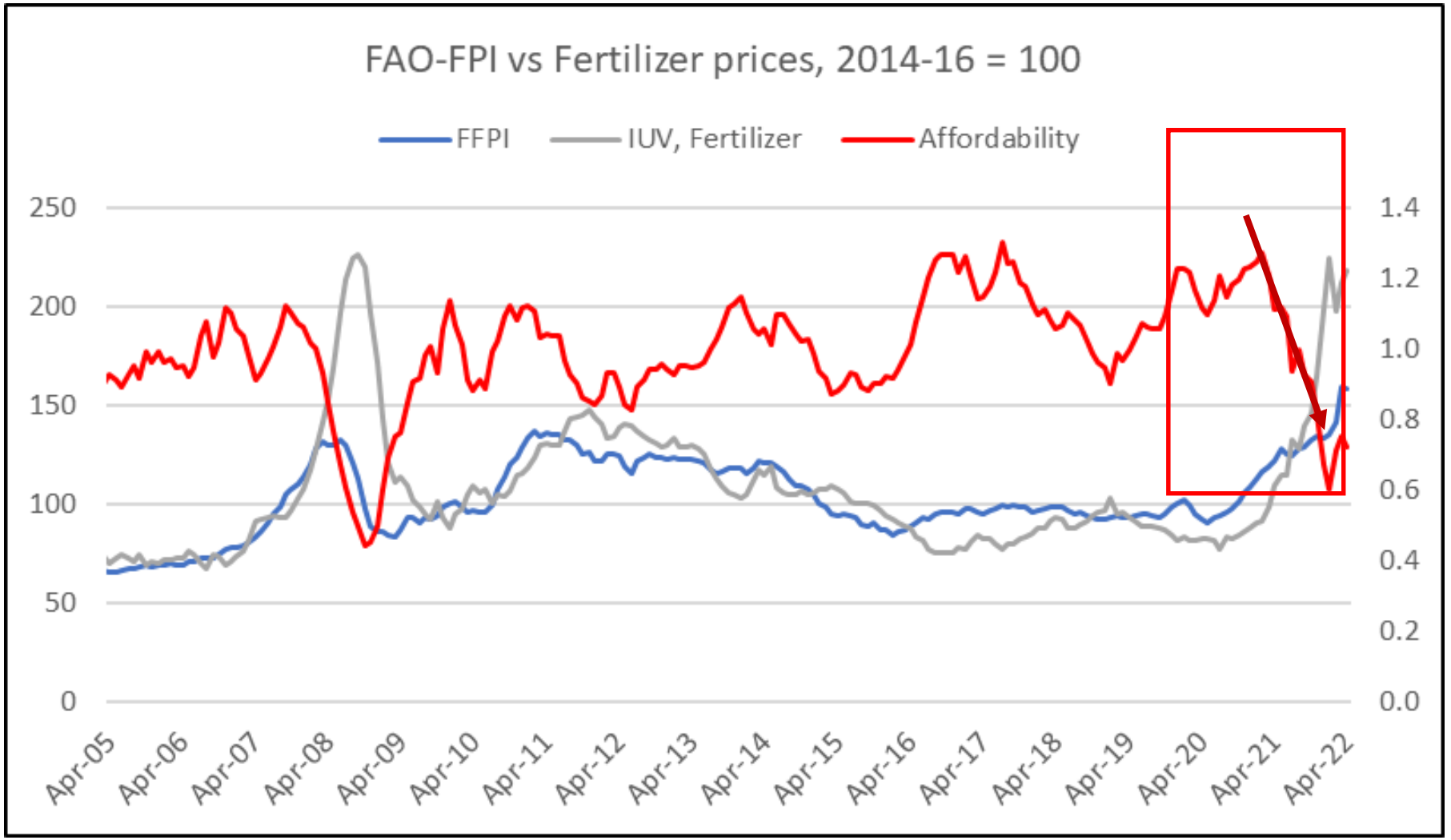
Some countries are heavily reliant on fertilizer imports from the Russian Federation

Countries in SSA are marked in red



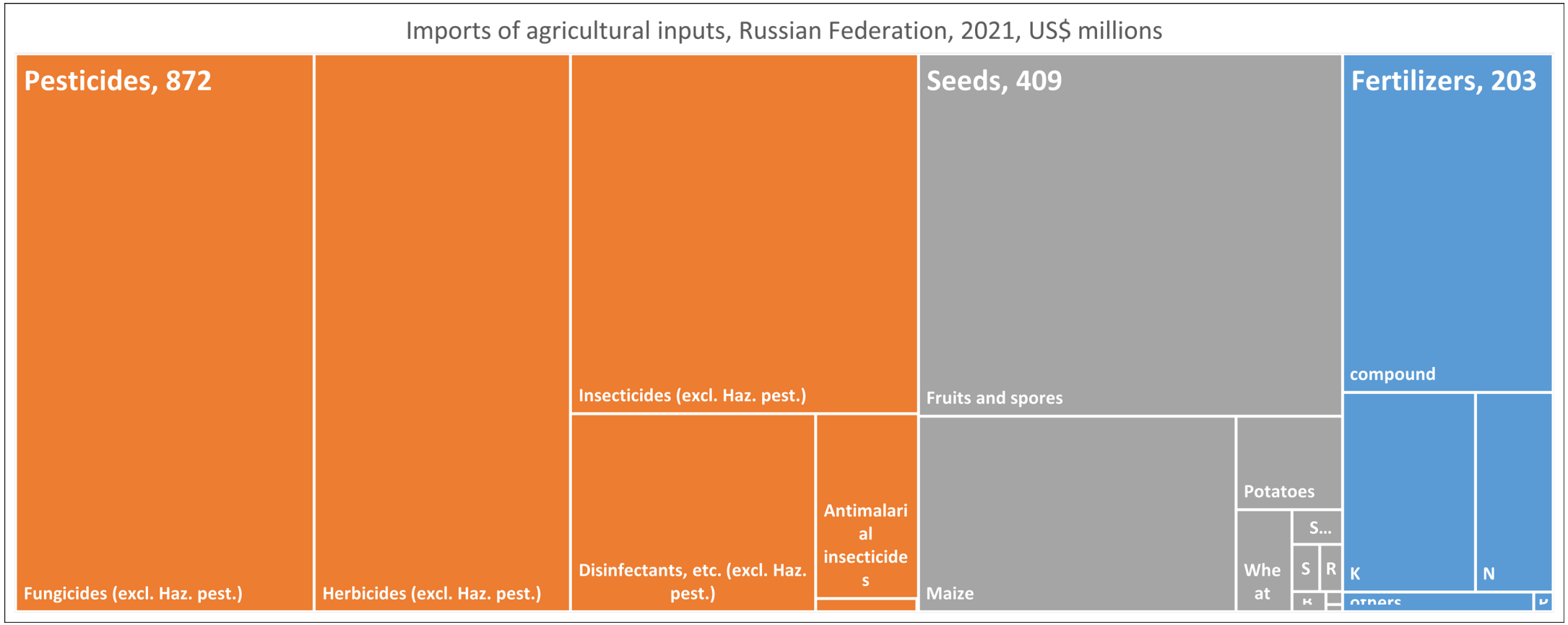

Fertilizer import dependency among ECA net importers, 2021
100
80
60
40
20
0
Kazakhstan
Republic of Moldova
Estonia
Serbia
Finland
Latvia
Armenia
Kyrgyzstan
European Union
Slovenia
North Macedonia
Poland
Ireland
Bosnia and Herzegovina
Norway
Denmark
Albania
Sweden
Bulgaria
Hungary
United Kingdom of Great...
Greece
Romania
Italy
Turkey
Switzerland
Tajikistan
Spain
Montenegro
France
Portugal
Cyprus
Malta
Czechia
Iceland
Ukraine
Austria

Fertilizer affordability is precipitously falling

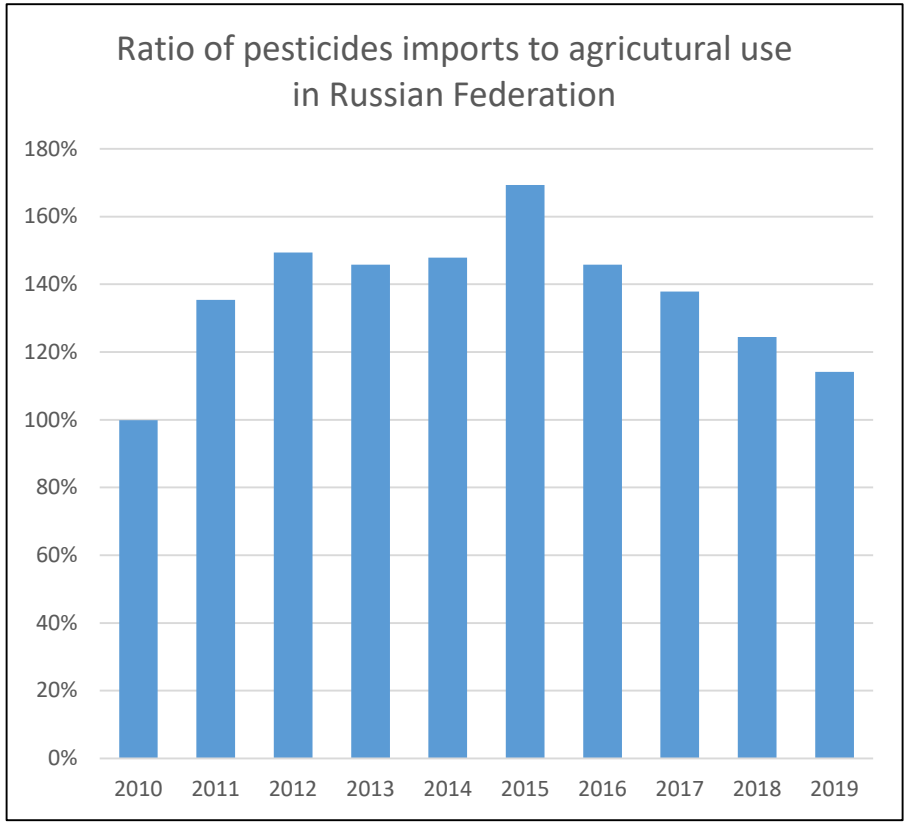


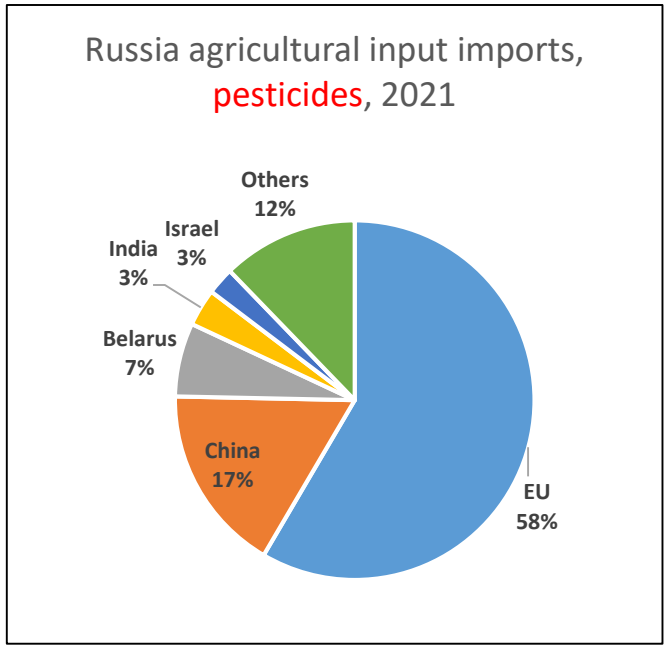
Source: FAO, TDM, author's calculations

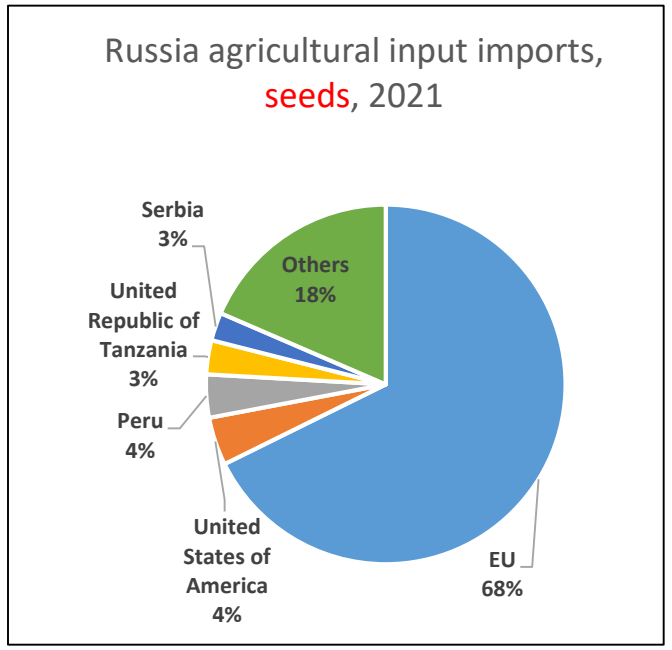
Inputs imported by the Russian Federation: Overview



The Russian Federation is heavily dependent on pesticides imports and most of its imports come from the EU-27







Policy recommendations

1. Support vulnerable groups, provide humanitarian assistance: rapid response plan for Ukraine
2. Keep trade open for food, fuel, and fertilizer
3. Analyse sanctions, pros and cons, costs and benefits
4. Avoid ad hoc policy reactions, export restrictions
5. Prepare a food/fuel/fertilizer import facility for the poorest and most affected countries
6. Diversify food supplies, import sources
7. Prepare for disease outbreaks (ASF)
8. Prepare for nuclear risks
9. Strengthen market transparency and dialogue, provide timely information
10. Create a masterplan for food and agricultural rehabilitation in Ukraine

In Focus: FAO responds to the Ukraine crisis

Policy proposals

FAO proposals for addressing the global food security situation and the risks associated with the current conflict.

A Global Food Import Financing Facility (FIFF)

- Brief
- Background

Response to the Ukraine crisis: social protection for food security and nutrition

The Ukraine crisis and its repercussions.

Assessing investment needs in Ukraine's a reconstruction and recovery

Assessing investment needs.

Using soil maps to promote efficient use of fertilizers

Learning from the Ethiopian Experience.

The conflict in Ukraine and animal health

Risk from zoonotic diseases.

Assessing food insecurity in 2022/23 at national and sub-national

Assessing food insecurity.

Rapid response plan (March–May 2022)

Supporting crisis-affected vulnerable smallholder men and women farmers .

Strengthen AMIS

Support vulnerable groups, provide humanitarian assistance: rapid response plan for Ukraine

ONE: maintaining food production, through providing cash and inputs for cereal crop production in October, and the Spring vegetable and potato production, as well as supporting harvesting of the 2021 winter crop in July and August; and includes providing livestock production and health inputs and services.

TWO: supporting agrifood supply chains, value chains and markets by engaging government and the private sector to provide technical support services to household level and smallholder producers through public-private partnerships.

THREE: Ensure accurate analyses of the evolving food security conditions and needs, including through coordination of the Food Security and Livelihoods.

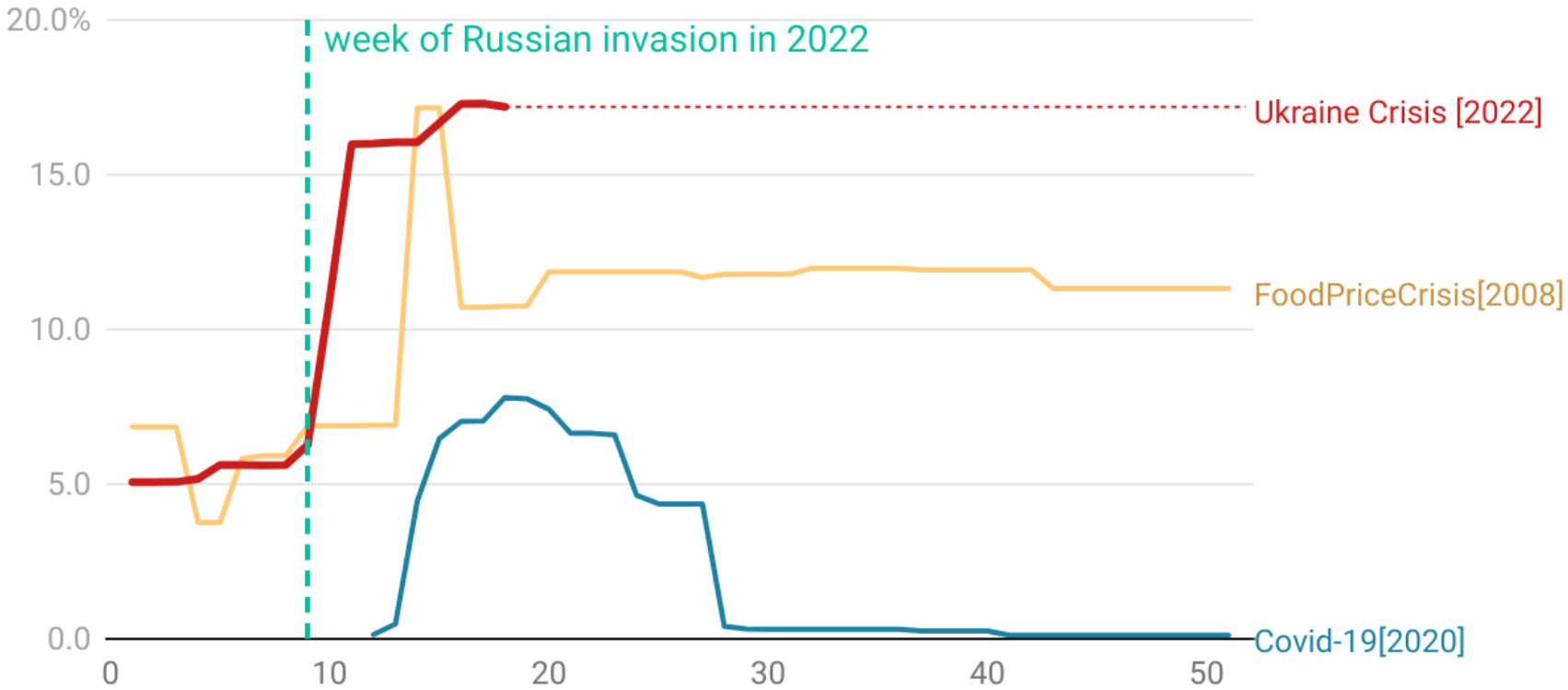
Funding requirement of USD 115.4 million

Only 10 Million USD funded.

Keep trade Open

Evolution of the share of global trade, in calories, impacted by export restrictions

Daily update. Includes food, feed and other uses of food products.



X-axis shows the week of the year. 1= first week of the year.

Chart: David Laborde • Source: IFPRI

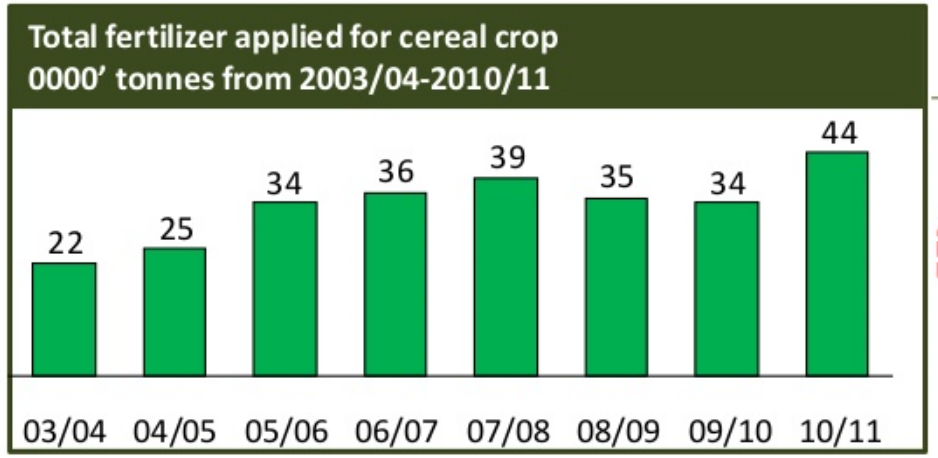
Strengthen AMIS

- Secure core funding for regular outputs and activities
- Strengthen capacity in AMIS participating countries:
- Upgrade IT infrastructure and communication
- Coverage of fertilizer/input markets
- Coverage of vegetable oil markets
- Expand analytical capacity/modelling work of the Secretariat
- Monitoring food trade logistics

Funding requirement of USD 1.5-2 USD Million per year

Efficiency in use of fertilizers: Soil Maps

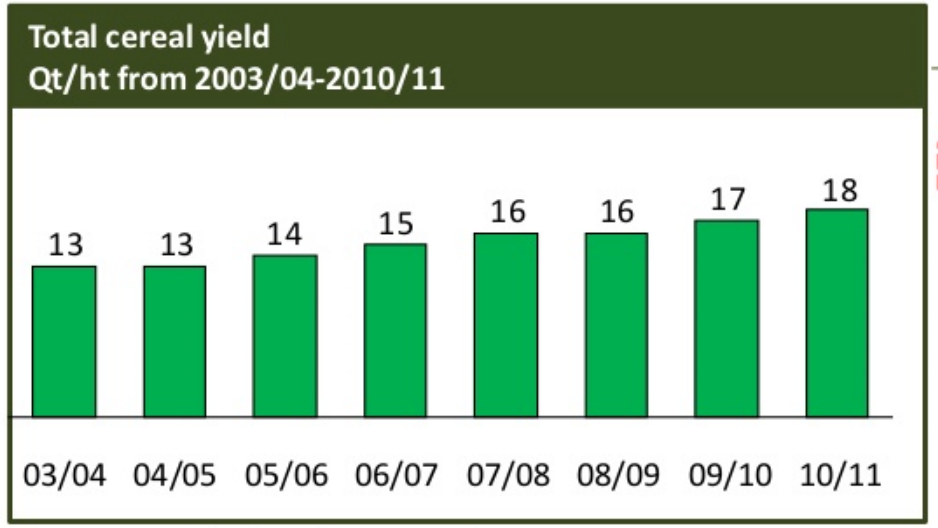
Ethiopia's investment in fertilizer has not paid off; growth in fertilizer use has not resulted in commensurate increases in yield



Annual Growth Rate (CAGR)

2003/04-10/11

≈ 10%



Annual Growth Rate (CAGR)

2003/04-10/11

≈ 5%

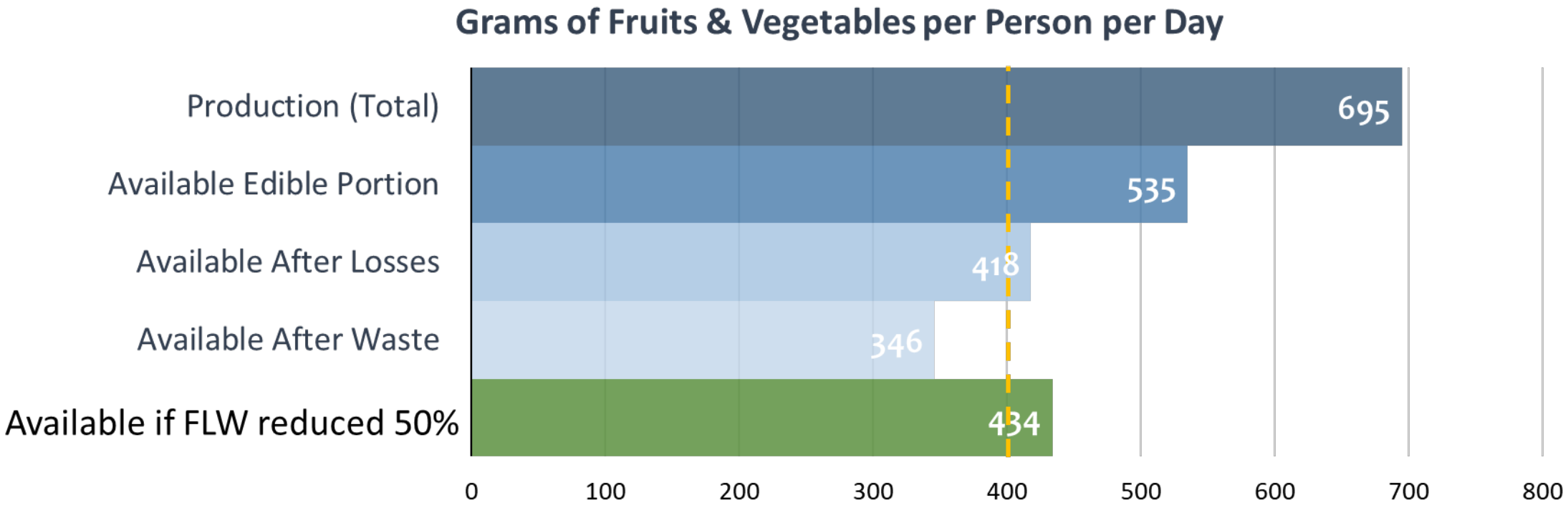
- **Blanket application of DAP and UREA** is not considerate of crop need, soil nutrient dynamics and agro-ecological factors
- Recent soil tests show **deficiencies in 6-7 nutrients**, but DAP and Urea only supply 2 nutrients
- The government has resolved to address this issue by building **fertilizer blending plants** that can create blends specific to Ethiopia's soil needs

Source: CSA; Agricultural Sample Survey 2003/04-11,

Source: ATA

Efficiency gains in reducing FLW

- If we **reduced FLW by 50%**, there would be **sufficient** Fruits & Vegetables available in the food supply to cover the recommendations globally.



Source: FAO, The State of Food and Agriculture 2019.

Easing the burden of high food import costs: A proposal for a Food Import Financing Facility (FIFF)

Food import bill, sub-Saharan Africa, ARC regional aggregate

Food import bill by food group, total, US$ billions and percentage changes

	2019	2020	2021	2021/2019	2021/2020
Animal and vegetable oils fats	5.1	6.5	8.9	76%	37%
Beverages	2.7	2.2	3.1	12%	37%
Cereals and cereal preparations	13.8	17.0	17.7	28%	4%
Coffee tea cocoa spices and products	1.5	1.6	1.7	12%	5%
Dairy products and eggs	2.1	2.7	2.5	20%	-5%
Fish crustaceans and molluscs	3.9	4.4	4.2	7%	-5%
Meat and meat preparations	2.8	2.5	3.3	17%	30%
Miscellaneous food	4.1	4.8	5.0	21%	4%
Oilseeds and oleaginous fruits	0.2	0.3	0.3	44%	6%
Sugar honey and preparations	3.8	4.1	4.5	18%	10%
Vegetables and fruits	3.2	3.5	3.7	15%	5%
Total	**43.3**	**49.6**	**54.8**	**26%**	**10%**

Source: author's calculations

Food import bill, ECA region, by food group

Food import bills by food group, total, US$ billions and percentage changes

	2019	2020	2021	2021/2019	2021/2020
Animal and vegetable oils fats	31.7	36.1	48.3	52%	34%
Beverages	50.6	49.7	57.8	14%	16%
Cereals and cereal preparations	63.1	64.8	73.3	16%	13%
Coffee tea cocoa spices and products	59.4	61.9	67.2	13%	9%
Dairy products and eggs	51.4	51.6	57.1	11%	11%
Fish crustaceans and molluscs	62.4	59.4	67.3	8%	13%
Meat and meat preparations	62.0	57.9	62.5	1%	8%
Miscellaneous food	36.8	38.3	42.7	16%	12%
Oilseeds and oleaginous fruits	22.9	25.9	30.8	34%	19%
Sugar honey and preparations	15.0	15.3	17.4	16%	14%
Vegetables and fruits	134.0	140.4	148.1	11%	5%
Total	**589.3**	**601.0**	**672.4**	**14%**	**12%**

Source: author's calculations

Easing the burden of high food import costs: A Food Import Financing Facility (FIFF)

(Eligible African countries are marked in red)

Income Group	FIFF eligible countries
Low	Mozambique, Benin, Gambia, Ethiopia, Syrian Arab Republic, Guinea, Liberia, Congo, Nepal, Somalia, Guinea-Bissau, Mali, Yemen ,Eritrea, Tajikistan, Rwanda, Sierra Leone, Niger, Afghanistan, Burkina Faso, Haiti, Burundi, Central African Republic, South Sudan, Democratic People's Republic of Korea, Togo
Lower-Middle	Djibouti, Tunisia, Mongolia, Bhutan, El Salvador, Sao Tome and Principe, Kyrgyzstan, Lesotho, Uzbekistan, Cabo Verde, Philippines, Bangladesh, Senegal, Viet Nam ,Egypt, Pakistan, Timor-Leste, Kenya, Comoros, Lao People's Democratic Republic, Cameroon, Cambodia, Democratic Republic of the Congo, Angola, Mauritania, Sudan, Zimbabwe, Nigeria
Upper-Middle (IDA only)	Grenada, Tonga, Maldives, Dominica, Saint Lucia, Samoa, Saint Vincent and the Grenadines

FAO's Response: a global Food Import Financing Facility

- It is designed to respond to rising food import and input costs.
- It is complementary to the mechanisms we have in the UN and the Bretton Woods institutions to tackle such crises.
- It is strictly based on urgent needs and limited to low, and lower middle-income net food-importing countries.
- It has been designed to include smart conditionality to act as a stabilizer for future funding. Eligible countries will commit to increase investments in agrifood systems, thus increasing resilience for the future.
- It has been stress-tested by FAO for its impact on the global markets, and would be convenient to administrate and scale up.
- Envisaged funding volumes (credits)
    - Global: USD 2.5 billion to USD 25 billion globally
    - For Africa USD 9 billion to USD 0.9 billion
- Its details can be found at: https://www.fao.org/3/cb9445en/cb9445en.pdf

Thank you!