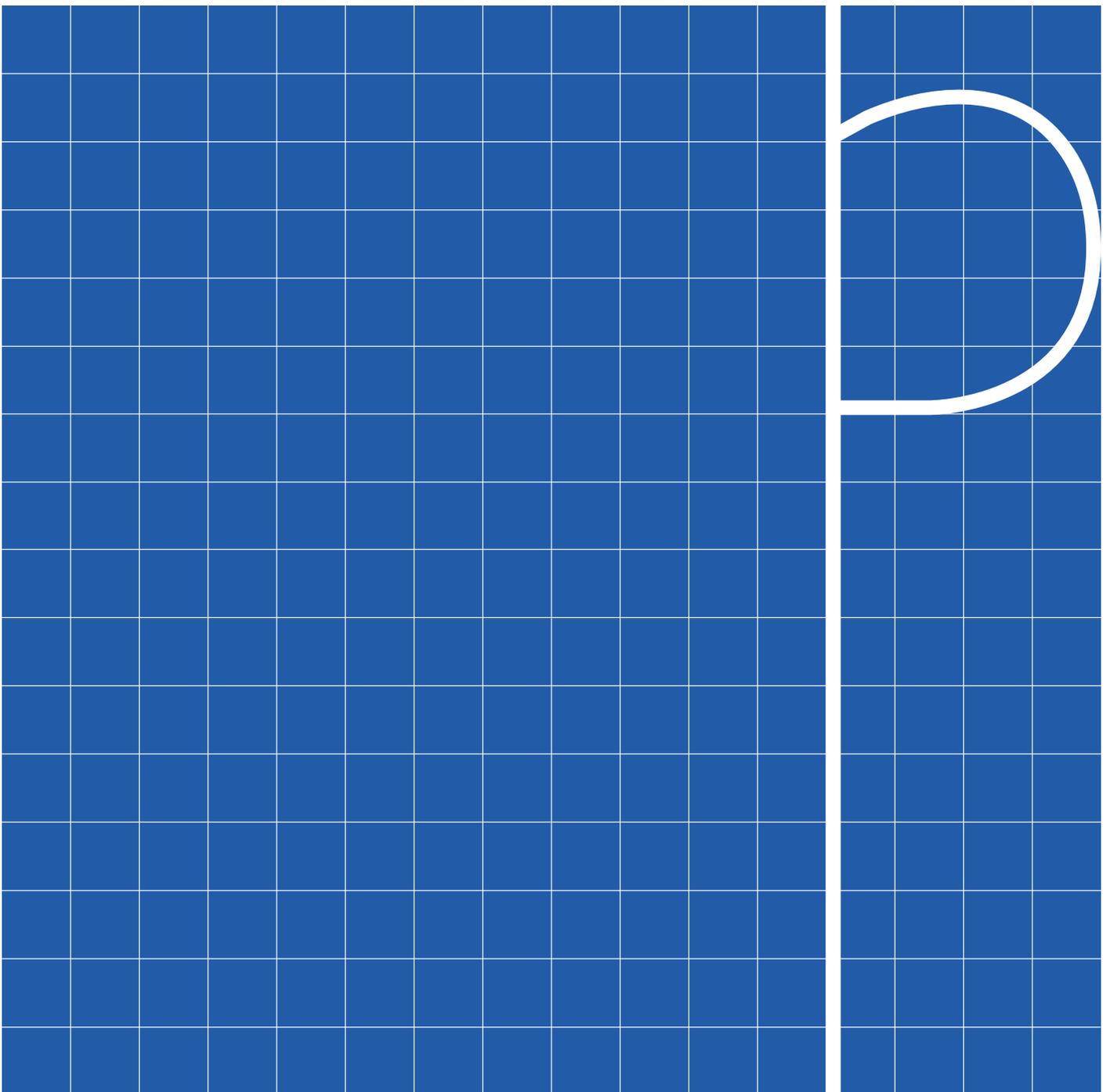
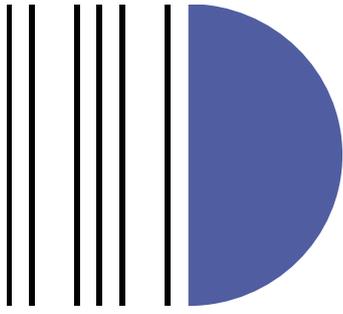


/02

PAPER: War and Food

Rethinking the security of food provision at a time of war





DIVULGA

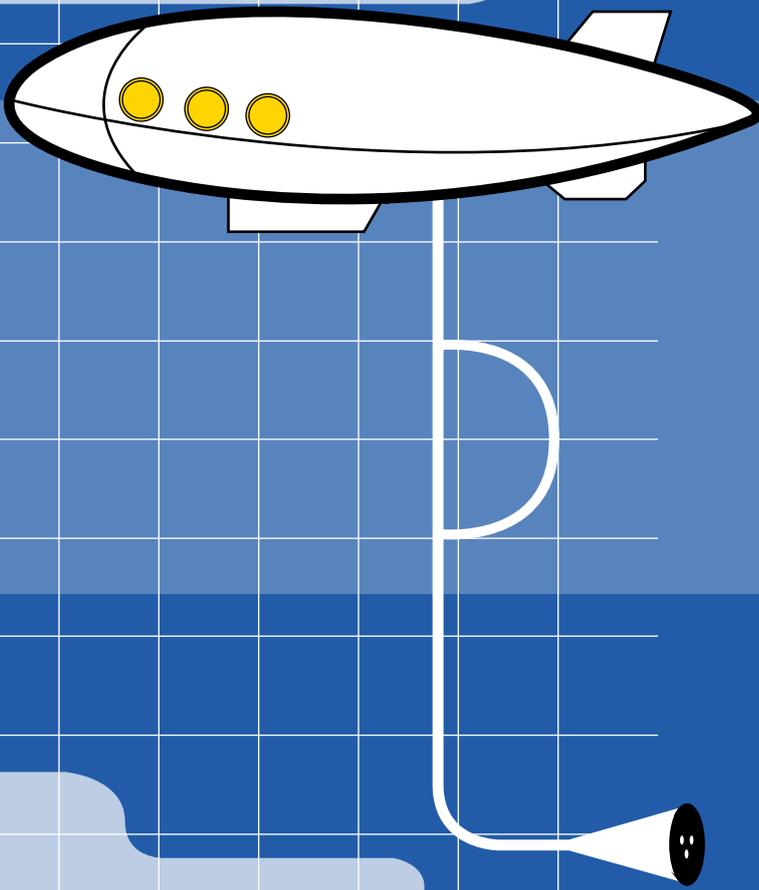
Authors

Felice Adinolfi
Riccardo Fargione
Annamaria Pirrone
Giuseppe Peleggi

Illustrations

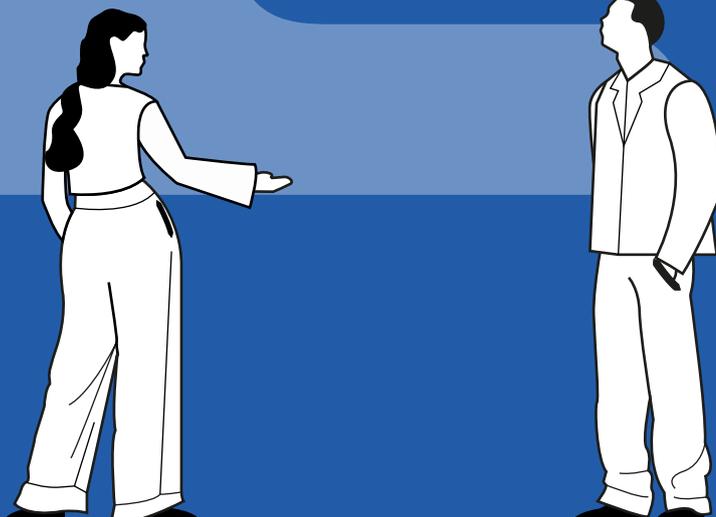
Matilde Masi

The work is available online at the address
<https://divulgastudi.it>



Russia and Ukraine are two major sources of supplies and the conflict underway makes us realise that food security and national security coincide. I will explain this to you with some numbers and by suggesting the idea that production can be increased without renouncing either the standards that today ensure European consumers have healthy food, or the goals of the ecological transition.

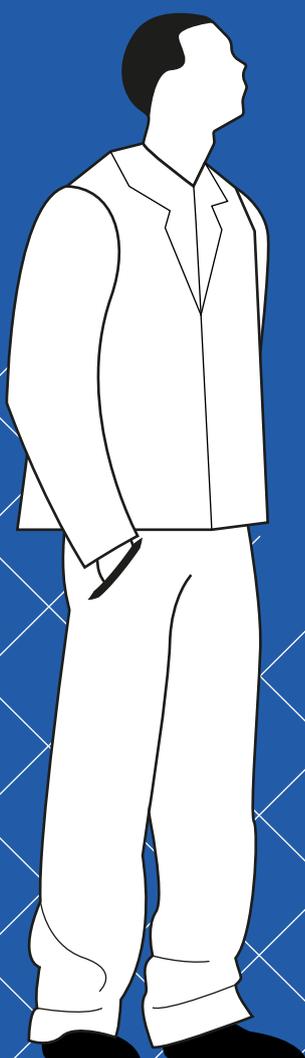
This war makes our food supplies vulnerable. Everyone says so. But what is the situation? And how can we defend ourselves?



Abstract

- This Paper provides and comments on certain key numbers that can help more effectively frame the potential impacts of the conflict between Russia and Ukraine on the agri-food system. The area involved has crucial importance in the international panorama of certain essential raw materials. It is not only one of the largest areas in the world for the production of cereals and sunflowers – essential raw materials for both human nutrition and for the processing industry and animal husbandry – but also one of the most important for the production of fertilizers.
- At a historic juncture when the impacts of the pandemic was already pushing up the prices of certain basic goods, such as the skyrocketing cost of energy, the situation is at risk of becoming destabilising and requiring structural interventions by national and European policy makers. The time of the urgency of self-sufficiency seems to have returned with a vengeance: a situation that is taking us back to the post-war period when Europe put energy and food sovereignty at the centre of its construction, giving rise to Euratom and the Common Agricultural Policy (CAP).
- We believe that an imminent revision of the EU's strategies is inevitable. The "ecological transition" firmly supported in recent years, with the opening of the season of the "European Green Deal", appears to be faltering faced with the prospect of reopening coal-fired power stations. This is also true of the goals of "From Farm to Fork" which, from today's perspective, actually seem to exacerbate the vulnerability of food security of European citizens in the near future.
- The inevitable stoppage of production activity in Ukraine and the trade restrictions imposed on Russia are depriving the market of vital sources of supply and the situation seems to be destined to endure over the medium-long period. We must get used to the typical policies of a war scenario and the numbers and facts reported in this work show us all the urgency with which we will have to act to review from this perspective Europe's approach to food security.
- As underlined in the conclusions, this should be done in such a way as not to renounce the achievements in terms of health and environmental standards attained by European citizens. It must be done in an intelligent way, fully playing the role that Europe has as the largest global player in agri-food trading. On one hand, driving forward on the road of reciprocity in trade agreements - which could translate as a specific clause with shared minimum standards with the EU's partners – and, on the other, avoiding giving in to the temptation of broadening European restrictions, authorising substances now banned or extending the admissibility of those subject to limitations.
- Incentivising production and sustainability: this is the great challenge facing Europe in order to deal with the war today and avoid climate and food disaster tomorrow.

C



Contents

1 • The role of Russia and Ukraine in global agriculture - page 3

2 • Geography of the national supplies - page 7

3 • The rally of prices - page 11

4 • The upsurge of costs - page 13

4.1 Energy - page 13

4.2 Fertilizers - page. 14

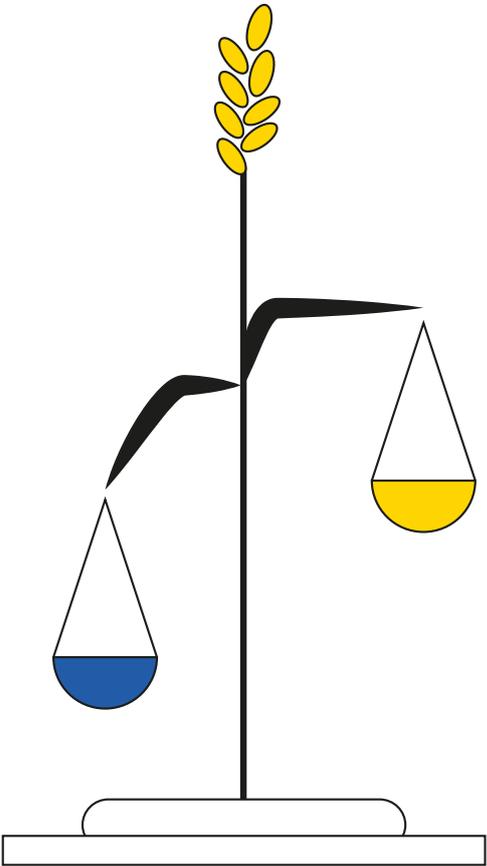
4.3 Agricultural diesel and logistics - page 16

5 • The risks for exports - page 19

6 • Policy considerations - page 23

W • Webliography - page 25

1.



1. The role of Russia and Ukraine in global agriculture

Within this framework, the specific situation of Europe must be examined. Russia and Ukraine together cover around 45% of imports of sunflower seed oil (around 2 million tonnes) and more than a quarter of corn imports (9 million tonnes) (Tab.1.1).

The agricultural exports of Russia and Ukraine are vital in feeding the trade flows of grain, corn and sunflower seed derivatives. Essential products for human consumption, animal nutrition and the food processing industry. Ukraine and Russia lie at first and second place in the world for the production of sunflower oil and eighth and third places for the production of wheat. Their positions as regards the world production of corn are fifth and tenth. In practice, the area involved in the conflict is responsible for around 56% of global production of sunflower oil, 15% of wheat production and a little less than 4% of corn production.

dei prezzi.

The relative weight of these two countries on production is increasing on the international trade side. In fact, Ukraine and Russia account for 28% of the wheat trade with more than 55 million tonnes transported, 16% of the corn trade (30 million tonnes) and 65% of the sunflower trade with 10 million tonnes. A significant amount in already very small markets: only 15% of corn and 25% of wheat are exported, the rest remains within the borders of the producer countries. The situation is different for the sunflower oil market, for which global exports reach 70% of production. Especially in small markets, the consequence of an extended absence of the export quota currently covered by Russia and Ukraine is inevitably translated in a structural price increase.

Less relevant in Europe's exposure to soft and hard wheat imports from the area involved in the conflict. In 2020, 987,000 tonnes of soft wheat entered Eu countries, equal to 4% of imports, and 65,000 tonnes of hard wheat, which is little more than 1%.

As regards Italy, Ukraine is important both for the imports of sunflower oil (around 60% of the total imported by Italy) and for the imports of corn, which in 2020 amounted to around 800,000 tonnes, equal to 13% of the total.

Ukraine is a vital partner for the agricultural supplies of Europe and Italy. Breaking down the figure for imports, it is seen how the importance of Ukraine in the coverage of European needs is not only predominant compared to the role played by Russia, but also how it has grown enormously over time.

Tab. 1.1 - % weight of imports from Ukraine and Russia in Europe and Italy 2020-2010

	EUROPE				ITALY			
	From Ukraine		From Russia		From Ukraine		From Russia	
	% on import	Var.% on 2010	% on import	Var. on 2010	% on import	Var. on 2010	% on import	Var. on 2010
WHEAT	2,30%	73.500.000%	1%	32.000.000%	3%	23.300.000%	1,20%	99.600.000%
CORN	25%	1.540%	0,50%	7.610%	13%	77.000.000%	0%	-
SUNFLOWER OIL	45%	213%	0,50%	-77%	60%	137%	0%	-100%

Source: Divulga Study Centre processing of Eurostat data

2.

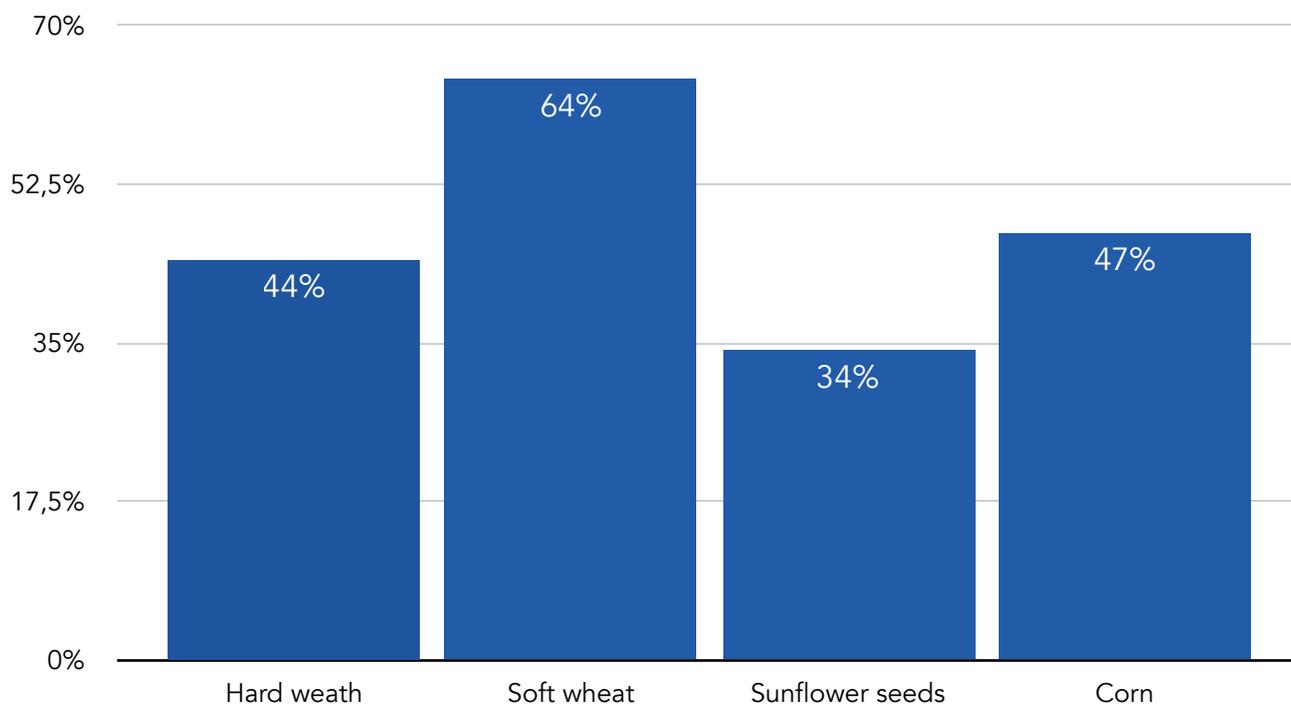


2. Geography of the national supplies

Direct exposure to these two large production basins only partly impacts the supply framework. Markets are global and the price transmission chain is very rapid. The overall exposure of a country to the markets of these products is, therefore, of great significance. Italy suffers from a structural dependence for soft wheat, of which we import around 64% of the national requirement, for hard wheat, for which we depend on the markets for 44%, for corn (47%) and for sunflower seeds (34%) (Fig.2.1). A dependence on third-party sources that at times like this risk making our country particularly vulnerable, in all the components of the supply chain. From production, which must take account

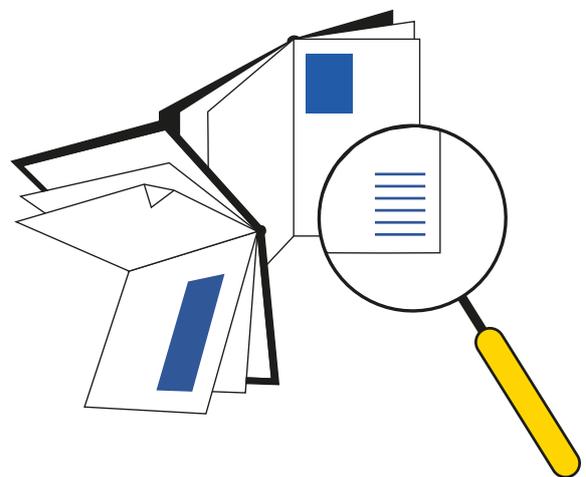
in particular of the increase of fodder prices, to processing, which has seen a reduction in the availability of basic raw materials and an increase in their prices, through to the end consumer, who sees the impact of this situation on such a basic component of living costs as food.

Fig.2.1 - % dependence on abroad for selected productions

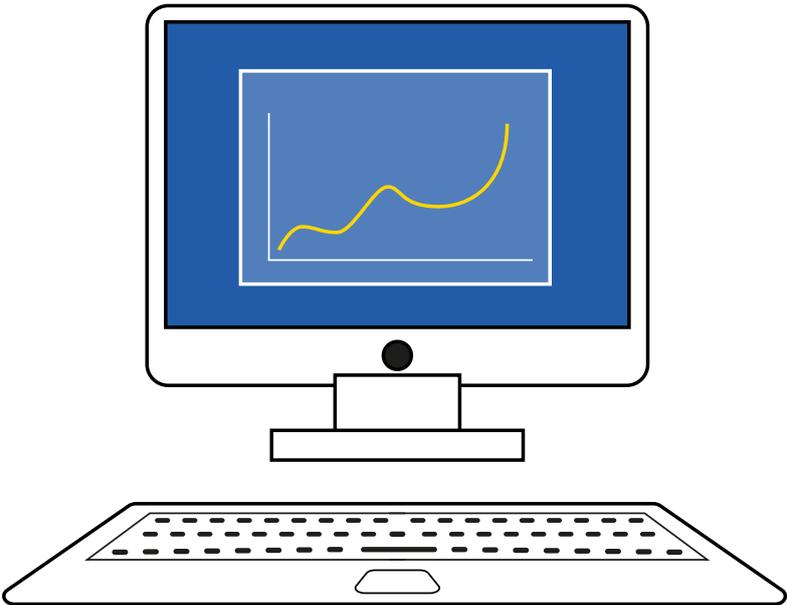


Source: Divulga Study Centre processing of Ismea data

Currently, 86% of soft wheat imported in Italy comes from European countries. The main supply basins are Hungary for 28% (1.36 million tonnes), France for 19% (920,000 tonnes) and Austria for 10% (468,000 tonnes). Ukraine and Russia lie at 6th and 13th places in the classification with 234,000 tonnes and 52,000 tonnes. The imports of hard wheat, on the other hand, come mainly from countries outside the EU. Among these, Canada provides around half of Italy's imports (1.54 million tonnes) and the United States provides 21% (665,000 tonnes). Two European countries follow, Greece and France, which each cover 6% of the imports. Russia lies in 8th place in the classification with 45,000 tonnes while we do not import hard wheat from Ukraine. In 2020 alone, 4.8 million tonnes of soft wheat and 3.13 million tonnes of hard wheat came across Italy's borders. The purchase of corn on foreign markets exceeded 6 million tonnes, mainly from Hungary with 30% (1.85 million tonnes), Slovenia with 13% (780,000 tonnes) and Ukraine with 13% (770,000 tonnes). As regards the imports of sunflower oil, on the other hand, 591,000 tonnes were purchased on foreign markets. In first place is Ukraine, which provides 60% of imports (347,000 tonnes), followed by Hungary with 19% (112,000 tonnes) and 10% from the Republic of Moldova (57,000 tonnes).



3.



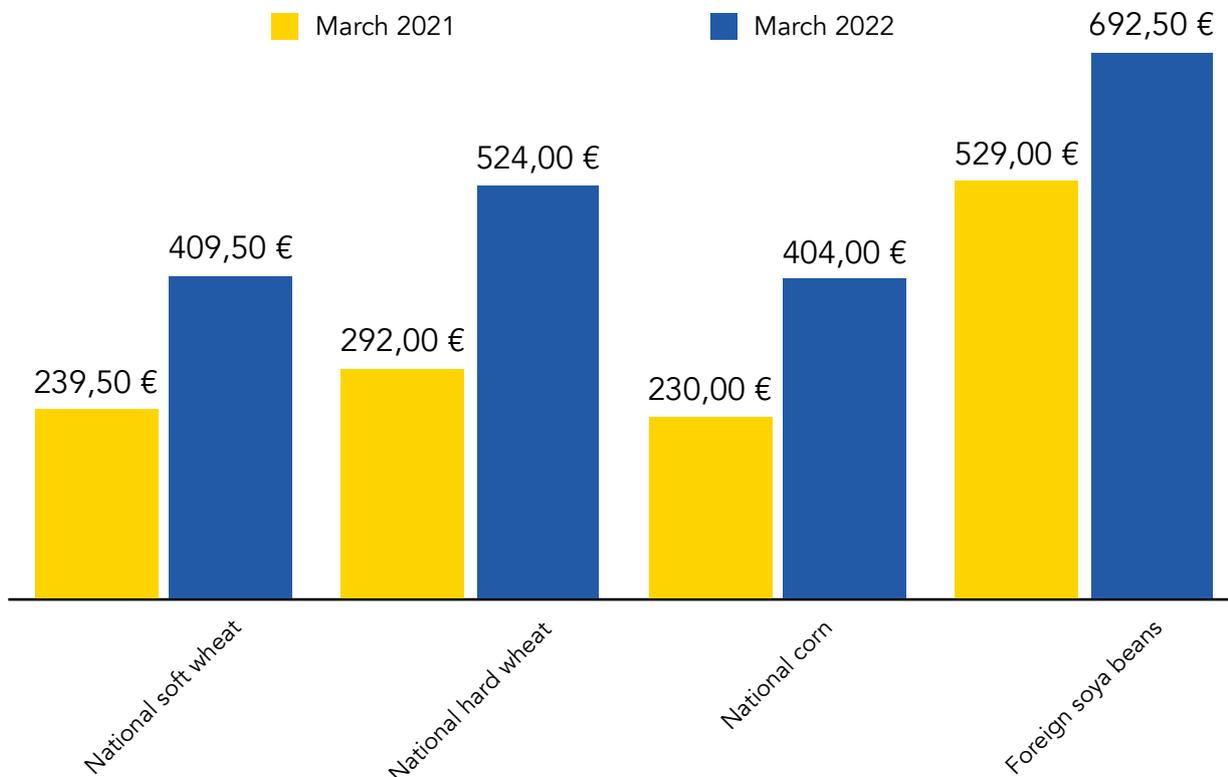
3. The rally of prices

The repercussions on international trade will be predictably extensive and current price peaks could only be a foretaste of what is to come. The stoppage of Ukrainian production, together with the exacerbation of the commercial reactions and counteractions will lead to the increasing suffocation of the markets and prices could soar very quickly in the coming months. This is also because there are already various countries that are implementing active trade policies for the security of supplies. We have witnessed the initiative of Hungary, fortunately thwarted, to block exports and we are seeing the first decisions to stop the export of cereals, such as those recently in

Argentina and Egypt, unfortunately to be followed inevitably by others.

On the basis of the data of the Bologna Commodities Exchange (Ager) in March, the price of hard wheat recorded the most marked increase compared to last year (+80%) reaching €524 per tonne. The peaks for soft wheat (+71% based on trends) are also significant (Fig.3.1). There were sustained increases also for corn for fodder, which recorded a rise of 76%. The increases of recent days have also pushed up soya, as the perfect replacement, which is following the prices of corn. Indeed, an increase was recorded of 31% in the price of soya beans.

Fig. 3.1 - Prices of the main cereals on the Italian market (€/Tonne)



Source: Divulga Study Centre processing go Ager Bologna data

4.



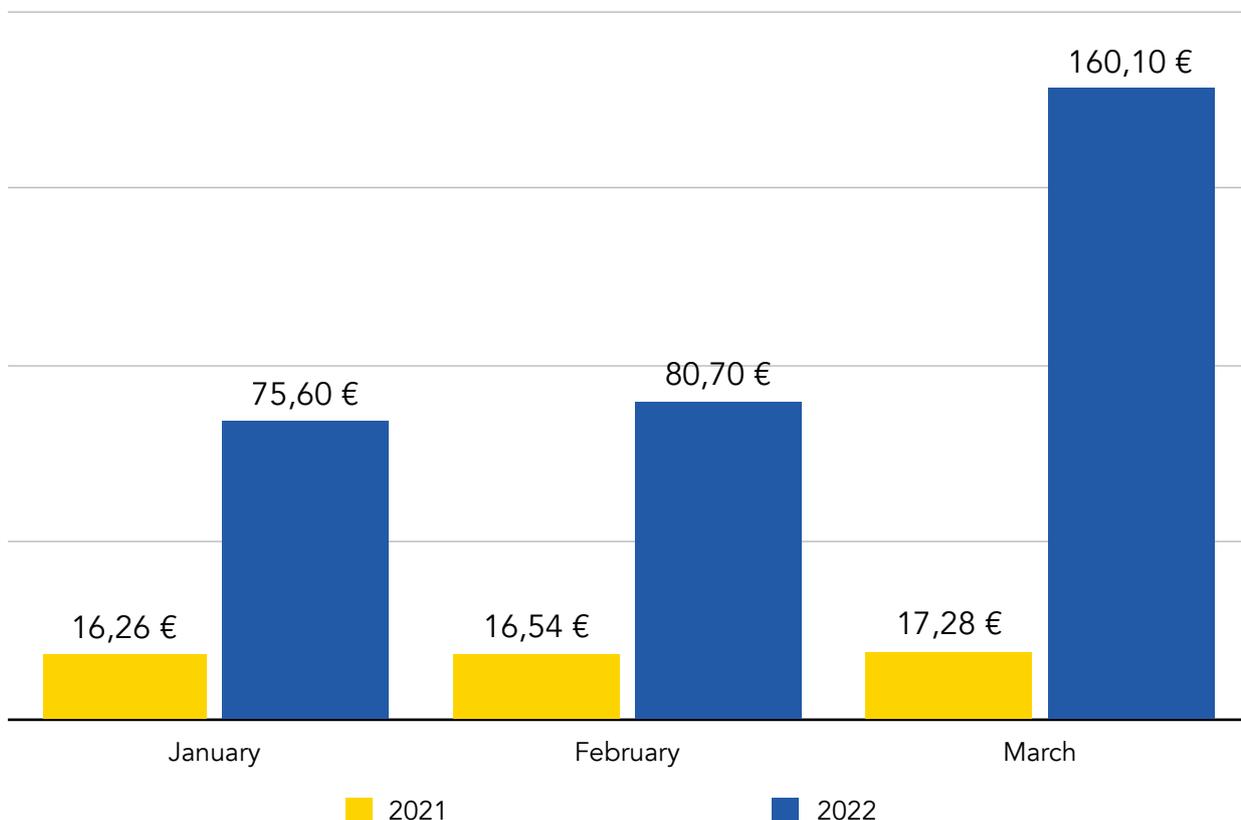
4. The upsurge of costs

4.1 Energy

Concerns are not limited, however, to the gloomy picture of the price increases of agricultural raw materials just outlined. Energy costs are also rising rapidly and are reflected in the costs of fertilizers and the entire supply chain. The geopolitical tensions have only aggravated an already worrying situation. Already in January 2022, according to ICE data, national farms are witnessing an increase in the price of natural gas of nearly 5 times that of last year. Following the outbreak of the conflict, the increase has been even more

vertiginous and brought prices to €160/MWh in the early days of March, marking an increase of 827% compared to last year. Italy is one of the European countries that most depend on Russian gas (around 45% of the total in volume). According to Coeweb data, Russia lies in first place among the supply sources, followed by Algeria (23%) and Qatar (10%).

Fig.4.1 - Price of natural gas used in agri-food production. 2021-2022, (€/MWh)



Source: Divulga Study Centre processing of ICE data

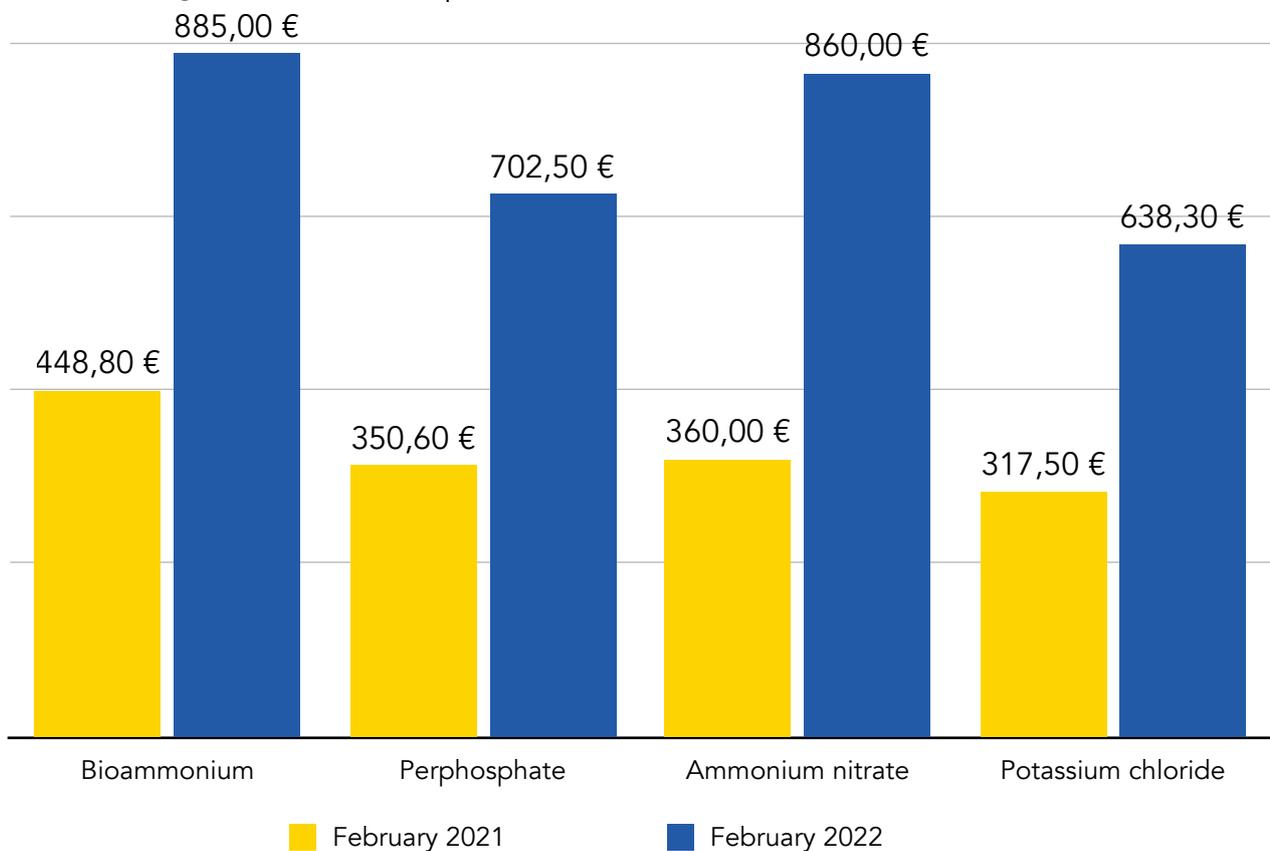
4.2 Fertilizers

The war between Russia and Ukraine particularly affected the availability and costs of fertilizers. Russia, together with Belarus, another country heavily involved in the current conflict, supplies around 40% of the world's exports of potassium and 20% of those of ammonia, essential products for making fertilizers.

Around a quarter of the global transport of fertilizers comes from the Russia, Ukraine and Belarus geographic basin. These represent more than 23.7 million tonnes of product distributed in the world. Overall, Italy imports 14% of the fertilizers from abroad from these three countries for a volume of 347,000 tonnes (172,000 tonnes from Russia and 107,000 tonnes from Ukraine, 68,000 from Belarus). In the last year, there has been a marked increase in the supplies of fertilizer from Ukraine, which grew from +287% compared to 2019. Around 70% of Italian imports are from outside the EU, for a total of around 1.8 million tonnes of fertilizer.

In Italy, the price of ammonium nitrate has risen by 139% compared to last year. There were also significant increases in the prices of other products, such as perphosphate (+100%), potassium chloride (+101%) and bioammonium (+97%) (Fig.4.2).

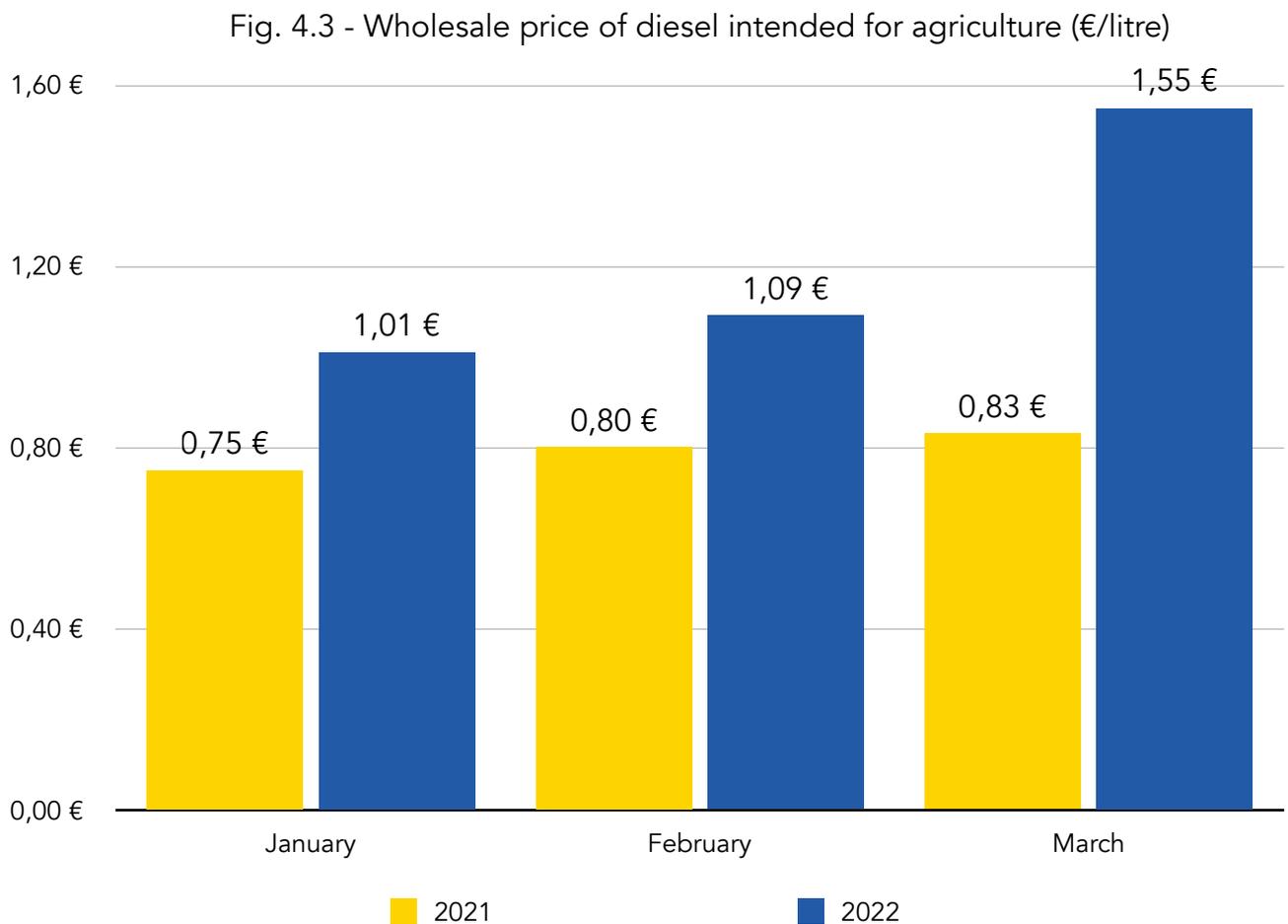
Fig. 4.2 - Wholesale prices of the main chemical fertilizers (€/Tonnes)



Source: Divulga Study Centre processing of CCIAA Alessandria data

4.3 Agricultural diesel and logistic

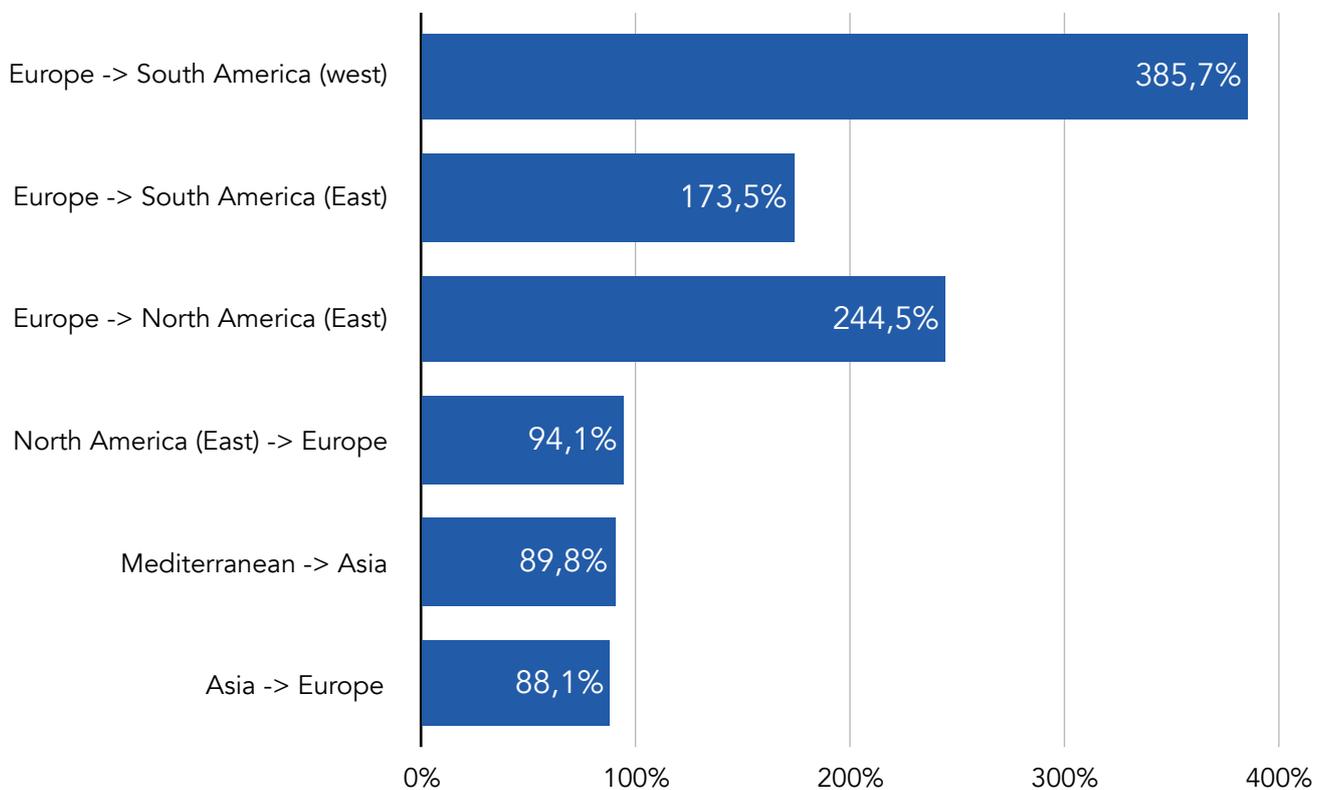
The rises did not even spare agricultural diesel, which recorded an increase of 46% compared to March last year, exceeding €1.55 a litre compared to only €0.83 in 2021 (Fig.4.3)



Source: Divulga Study Centre processing on Commodities Exchange of Milan Monza Brianza Lodi

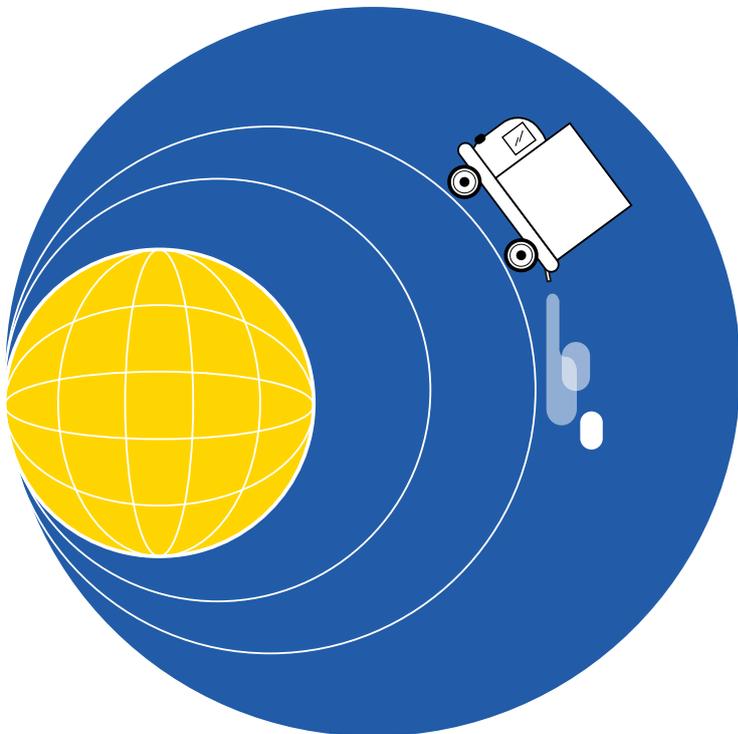
Increases that further penalise a context already characterised in recent months by steep rises in logistics, with vertiginous increases of transport costs and container hire, as shown in the previous graphic.

Fig.4.3.2 - % variation of the average monthly costs of transport by container (March 22 compared to March 21)



Source: Divulga processing of macro micro.me data

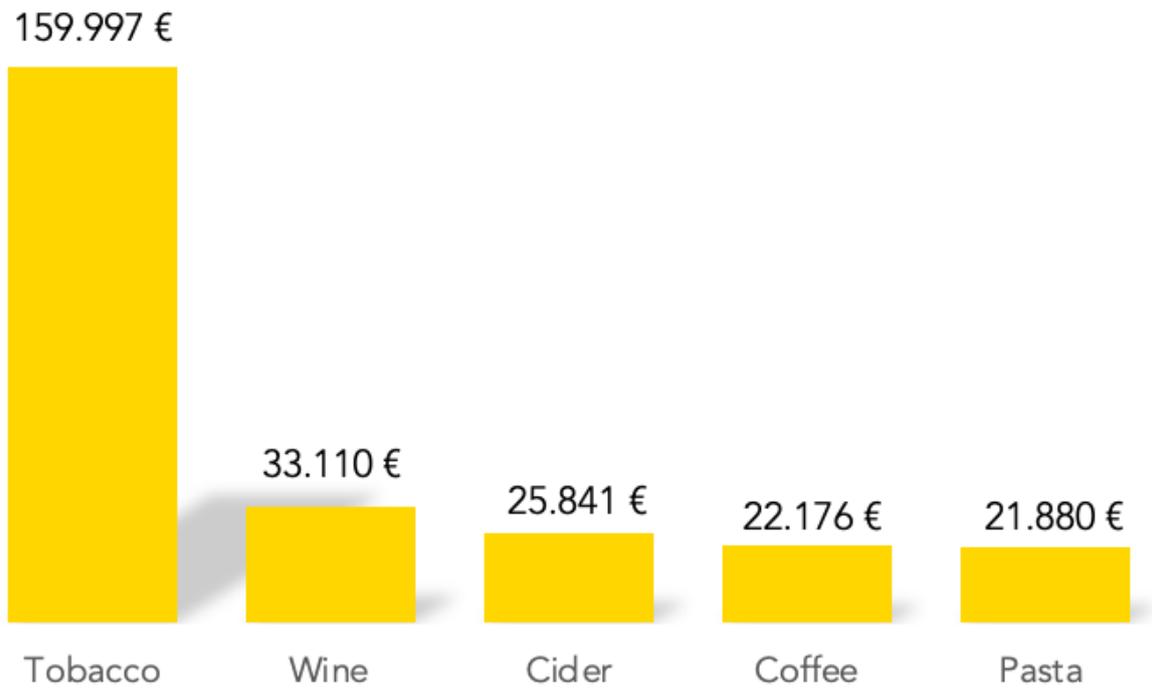
5.



5.1 The risks for exports

The repercussions are also being felt on the exports front where Russia is a particularly significant market for certain Italian products, such as wine and, in part, also pasta. Overall, in 2020 Russia and Ukraine bought more than 1.3 billion euros of Made in Italy agri-food products. 70% of these exports were intended for Russia with a value of 900 million euros while the remaining quota was for Ukraine (415 million). Italy is in first place for the supply of wines and sparkling wines to Russia, with a value of 296 million euros, while, in Ukraine, the export of these products earns 33 million (Fig 5.1 and 5.2). Also popular in these markets is Italian pasta (30 million in Russia and 22 million in Ukraine) and olive oil (29 million in Russia).

Fig. 5.1. Made in Italy agri-food exports to Ukraine (000 euros - year 2020)



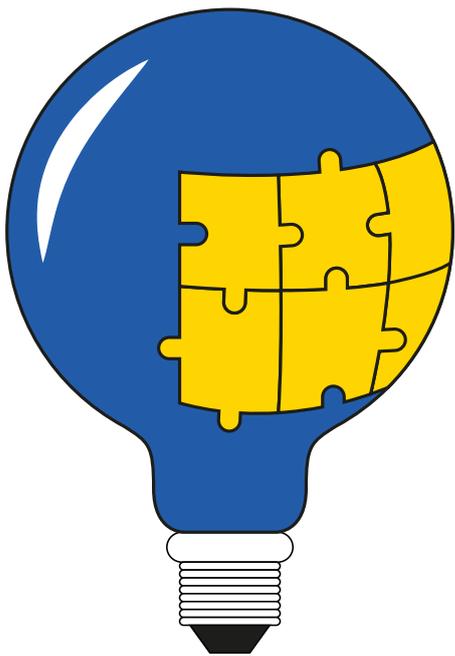
Source: Divulga Study Centre processing of Comtrade

Fig. 5.2. Made in Italy agri-food exports to Russia (000 euros - year 2020)



Source: Divulga Study Centre processing of Comtrade

6.

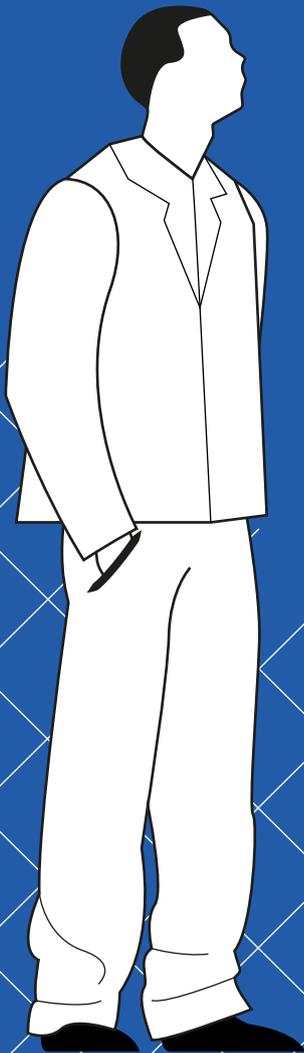


6. Policy considerations

In this scenario, Europe is called on to exert an effort of “active resilience” based on a new policy instrument able to adjust to the strategic aims of Eu and Italy in the new context of war. Self-sufficiency in food and energy are the two important aspects of national security and are today two emergencies that go beyond the short term and risk becoming structural. This must be the signal for taking not only emergency measures but also long-term actions because the fear is that this conflict is leading us to a new, more fraught season of international relations. Acting in a context of war must not, however, make us lose sight of the major global emergencies that remain in the background, primarily the climate crisis, and must necessarily not make us renounce the gains made in terms of European consumer safety. The road that some indicate of lowering our environmental and health standards on incoming foodstuffs does not help self-sufficiency and, what’s more, exposes European citizens to greater risks in terms of the environment and human health. We must instead promote the growth of agricultural production, without renouncing either our standards or the ecological transition goals we have set ourselves. But we cannot claim to favour renewable energies if their cost is still coupled with that of gas, which in Europe is the highest in the world. We cannot pretend that, at this historic moment, it is still possible to think of keeping fallow around nine million hectares of agricultural land, following an operational logic of the Common Agricultural Policy (CAP) established in 1992. We cannot think of

producing more, without robustly promoting innovation and its dissemination in agriculture. We cannot think of becoming self-sufficient if today we do not decisively support the production sectors in crisis, avoiding the disappearance of small parts of European agriculture because we would risk losing them permanently. We must go back to looking at the local dimension of food and its value as a factor of social and environmental resilience. We must introduce new supply chain policies that can promote and incentivise the merging of the interests of farmers and processors and their ability to produce environmental and social public benefits. To do this, it is necessary to rethink the architecture and instrumentation of the public intervention and it must be done rapidly, before some impacts of this new scenario become irreversible.

W



Webliography

1. Digital Commodities Market, <https://www.bmti.it/>
2. CCIAA Alessandria, http://www.al.camcom.gov.it/Page/t04/view_html?idp=931
3. Comtrade, <https://comtrade.un.org/data/>
4. Eurostat, <https://ec.europa.eu/eurostat/data/database>
5. ICE, <https://www.ice.it/it/it>
6. Ismea, <https://www.ismeamercati.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/4537>
7. Macromicro.me, <https://en.macromicro.me/>

