



# Ukraine’s future competitiveness

Directions for structural shifts in foreign trade and investment

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# I. Key findings

## 1 Strategic recovery towards a greener and more secure future

In addition to replacing what has been lost to Russian destruction, the post-war reconstruction of Ukraine's economy will be based on the principle of "build back better" and a green transition. Both will enable Ukraine to "leapfrog" and develop more technologically advanced sectors with higher value added. This should become one of the critical priorities for reconstruction so as to ensure that Ukraine can effectively withstand the competitive pressures of the common market and be successful in cohesion efforts.

## 2 Six industrial sectors could maximise Ukraine's recovery potential

Six particular industries are expected to play a key role in Ukraine's recovery and reconstruction, namely, **renewable energy; critical minerals; the manufacture of metals; the manufacture of machines as well as electrical and transport equipment (both including sub-sectors of military production); agro-food; and IT.** Provided that a combination of industrial policy, an FDI-attraction strategy, and institutional and education reforms are applied, their further development will facilitate Ukraine's integration into the EU economy.

## 3 Critical minerals could contribute to European transitions

Here is one of Ukraine's strongest comparative advantages. In addition, it has the potential to become a strategic asset in strengthening European sovereignty. The European Commission considers Ukraine a potential supplier of more than 20 elements from the list of critical raw materials to the EU and has planned several measures in the field of trade and investments in the mining and processing industries of Ukraine

that work with rare-earth elements. This represents an opportunity for the integration of Ukraine into EU supply chains so as to support the EU's digital and energy transitions, particularly when it comes to the automotive and electronics sectors.

## 4 Digital leap forward: the ICT sector's role

Ukraine's progress in exporting digitally delivered services has been remarkable. Its share in exports was the highest in the Central, Eastern and Southeastern Europe (CESEE) region in 2021 and only slightly below the average level for the EU. However, the digitalisation of the economy is not uniform, and technological modernisation is needed in many areas. Ukraine has an enormous potential for catching up when it comes to ICT infrastructure development and the prevalence of internet use, which could provide a productivity boost. Such progress is expected to be fostered by integration into the (not yet fully developed) EU Digital Single Market, which is a goal that both Ukraine and the EU have recognised. Preserving a favourable taxation regime and increasing the protection of intellectual property rights (IPRs) would mitigate the risk of outflow of the highly skilled work-force.

## 5 Boosting competitiveness and higher integration into global value chains

For reconstruction to be successful, for EU integration benefits to be maximised, and for Ukraine to meet the Copenhagen Criteria and accede, it needs to be able to manage the competition of both the EU and global markets. A central part of modern global competitiveness is successful integration into global value chains, which facilitate technological transfer and functional upgrading. Compared to its regional peers, Ukraine remains relatively little advanced here. This points to a potential for higher integration into global production chains in the post-war period, especially given

friend- and near-shoring trends that add to Ukraine's largely untapped potential in green-energy and critical-minerals resources.

## 6 Navigating trade challenges for EU market integration

Ukraine's agricultural and metals sectors are highly susceptible to trade defence measures by the EU. Political tensions among several EU members after the expansion of Ukraine's agri-food exports in 2023 highlight challenges for Ukraine's EU accession process. Ukraine's vast agricultural sector has been perceived uneasily by some EU farmers, who remain shielded by the EU Common Agricultural Policy. Accelerating the integration of Ukraine's food industry into EU value chains could reduce the tensions. Ukraine's strong competitive edge in agriculture could elevate an enlarged EU into the role of the new global food supplier. To withstand the competitive pressure and successfully integrate itself into the EU market, Ukraine should in addition focus on strengthening and expanding its competitive advantage in technologically advanced sectors, especially considering that it still has a high level of economic complexity and is competitive in a wide range of technologically advanced products, including turbines, railway equipment and yachts.

## 7 Adaptation and resilience amid conflict: geographic and sectoral trade reorientation

Ukraine successfully managed significant structural shifts in its sector and geographic trade structures following Russia's annexation of Crimea and the onset of the military conflict in the Donbas in 2014. Russia's share in Ukraine's exports declined, and the share of the EU, as well as of Turkey and China, increased instead. The loss of a big chunk of the industrial base led to a decline in the share of machinery and transport equipment in merchandise exports and an increase in the share of agriculture and food products – from 29 percent in 2013 to 44 percent in 2021. The shifts have further intensified since Russia's full-scale invasion, which has caused the destruction of production assets in many sectors, especially in the manufacture of metals and petroleum processing. The share of agriculture in Ukraine's goods exports expanded to 63 percent in 2023. At the same time, exports to the EU became more diversified, with Ukraine shipping

to the EU 75 percent of its entire export nomenclature. Ukraine's exports outside the EU and the CIS have concentrated on several main products, including grains, sunflower seed oil, iron ores and ferrous metals.

## 8 Market evolution through trade policy reform and international alignment

Changes in Ukraine's trade policy have had a strong impact on the structural shifts in Ukraine's trade. The nation's market has gradually become much more open, with the effectively applied import duty declining from 7.5 percent in 1996 to 2.1 percent in 2021. The decrease in non-tariff barriers, which is the primary source of trade costs, was even more significant, as Ukraine has been reforming them for decades, first to comply with the World Trade Organization (WTO) requirements and then to harmonise its legislation with the EU *acquis*.

## 9 Accelerated and deeper: integration from the EU-Ukraine Association Agreement

Ukraine's economic integration with the EU has been advancing in many areas since the conclusion of the EU-Ukraine Association Agreement (AA) in June 2014, which includes a Deep and Comprehensive Free Trade Area (DCFTA). The agreement envisaged the elimination of import duties for all industrial and most agricultural products within up to 10 years as well as a gradual reduction in non-tariff measures. The majority of tariffs were eliminated. There has been an increase not only in the value of trade with the EU, but also in the share of new products and products with a higher degree of processing in exports to the EU. In services trade, the increase in the EU's share in Ukraine's exports (along with the US's) reflects Ukraine's growing specialisation in ICT.

## 10 Inclusion in EU Enlargement: securing the rule of law and property rights remains key

In some ways, Ukraine has already been more normatively integrated into the EU than current accession candidates and broadly comparable with the other Central and Eastern European countries when they were granted candidate status. In the "Ukraine 2023 Report" (European Commission 2023a), the European

Commission provides a comprehensive overview of Ukraine's progress and challenges in several key areas towards meeting the criteria for EU membership.

The backlog of FDI attraction is not so much due to sectoral regulations, as to a lack of protection of property rights and the rule of law. Foreign direct investment (FDI) inflow into Ukraine was volatile compared to those of its neighbours even before the war. Having EU candidate status provides a positive incentive for Ukraine to forge ahead with deep structural reforms and to resolve the most acute issues related to the rule of law, initially by completing the seven steps prioritised by the European Commission in its June 2022 opinion on Ukraine's candidacy (European Commission 2022a). The accession process is expected to assist Ukraine in addressing these fundamental challenges, which are crucial for all aspects of Ukraine's economic development. Moreover, it is planned for reconstruction to integrate into the framework of continued legal alignment with the EU, which will further reduce barriers to trade and investment, too.

Naturally, the absence of a stable security environment renders all processes – accession negotiations, recovery and reconstruction – significantly more complex.



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## II. Key messages for EU policymakers

**Our findings** identify Ukraine's strengths in six industrial sectors where the economy's major potentials lie in terms of competitiveness. Those sectors – namely, renewable energy; critical minerals; the manufacture of metals; the manufacture of machines as well as electrical and transport equipment (including sub-sectors of military production); agro-food; and IT – could significantly contribute to Ukraine's medium- to long-term growth.

Naturally, the war being waged by Ukraine's neighbour Russia constrains growth opportunities. We assume that war-specific policies, which are not part of the focus of this study, are shielding Ukraine against Russian aggression, though admittedly only to varying degrees. There is a high degree of uncertainty about the war's duration and outcome. It must therefore be recognised that the focus on defence and security has priority, ties up resources and constrains the abilities of all Ukrainians, both in and outside of government.

**The EU** has taken the lead in aligning reconstruction efforts with the EU accession process. It should therefore especially address the areas of identified weakness in which Ukraine has the most work to do to ensure the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the EU.

**First**, the EU should help Ukraine to overcome its weakness in attracting investment. The large-scale war has made this even more difficult, but focusing on Ukraine's strengths offers opportunities that match the EU's own transformation objectives along with its own evolving industrial policy agenda and the EU Green Deal. Centre stage should be given to helping Ukraine to develop a sustainable model for FDI attraction that goes beyond a race to the bottom on wages. Suitable measures include improving labour productivity by (fully) integrating Ukraine into educational, R&D and industrial policy programmes.

**Second**, the EU should continue to increase Ukraine's access to the EU market and integration into EU value chains in order to incentivise: Ukraine's greater regulatory alignment; Ukraine's direct and early involvement in EU initiatives related to EU trade standards and the EU Green Deal; digital market integration; and connectivity. From a holistic EU perspective and with a focus on reforms that are future-proof and long-term, temporary liberalisation measures should be made permanent instead of giving in to short-term and only supposed solutions of protectionist defence, and Ukraine's comparative advantages should be used to elevate the EU's sovereignty.

**Third**, the EU should work with Ukraine to develop its industrial policy, tailoring recovery and reconstruction to build on the identified strengths and promising niches that the Ukrainian economy has to offer to the extent possible even during the ongoing war. With the Ukrainian economy demonstrating key capabilities for over two years now – such as resilience, flexibility, adaptability and even ingenuity – it stands to reason that Ukrainian industrial sectors can be made fit for the demands of the EU single market.

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### III. Introduction

Russia's full-scale invasion of Ukraine, a European country that borders four EU member states, took place more than two years ago. As the war continues to rage, there are precarious developments on the battlefield and a sense of profound urgency about receiving weapons, ammunition and emergency humanitarian assistance.

Nevertheless, it is important to show the ways in which Ukraine's economy can resist and develop so that the nation's recovery and EU integration are not jeopardised from the outset. To give up on economic growth would be giving in to Russian aggression by other means. Moreover, it would undermine Ukraine's livelihood and military capabilities. To reconstruct and recover while the war is ongoing and to advance towards EU accession are means of survival, too.

The European Council's decision of December 2023 to open EU accession negotiations with Ukraine was historic. The EU perspective is vital, as Ukraine's largest assets are its people – and they will need to decide of their own free will whether to stay in or return to Ukraine to take an active part in recovery, reconstruction and making their nation's path towards EU membership a success. The prospect of EU membership, together with security and a resilient and developing economy, are the major means to attract the approximately six million Ukrainians who have sought refuge and security in EU member states back to their homeland.

Thus, maintaining and underpinning the complex processes of reconstruction, recovery and EU accession with evidence-based analysis and proposals for how economic resilience and development can work is already important at this time. Our goal in this study is to explore the most effective strategies for Ukraine to adopt in its efforts to resist in the war and integrate with the EU. It is the last in a series of three studies on integrating reconstruction with the accession path

(alongside Grieveson et al. 2023 and Kochnev et al. 2023). We assume that reconstruction will not simply aim to replace what has been lost to Russian destruction, but rather be based on the principle of “build back better” (or, perhaps more aptly, “build anew better”), as established from the outset, first at the Ukraine Recovery Conference held in Lugano in 2022. The other guard rail is a green transition, which will enable Ukraine to “leapfrog” and develop more technologically advanced sectors with higher value added.

In light of such future-oriented economic resilience and development, investment and trade are key. The EU is Ukraine's natural and strategic partner, especially as the former has now abandoned its long-embraced approach of ambiguity, which entailed forging closer economic ties with neighbouring countries while categorically excluding the prospect of EU membership at the same time. In the case of Ukraine, this involved the EU-Ukraine Association Agreement, with a Deep and Comprehensive Free Trade Area (AA/DCFTA).

While a larger coalition (particularly under the G7 umbrella) is supporting Ukraine, the EU is spearheading efforts to assist Ukraine while integrating its reconstruction and recovery into the EU accession framework. Moreover, since the EU has a self-interest in Ukraine's economic advancement, it should take the strategic lead in efforts to unlock Ukraine's industrial potential. This is particularly vital given Ukraine's status and potential as a long-term strategic partner that could contribute to the EU's sovereignty in a new geopolitical reality.

In our study, we examine two pivotal factors for Ukraine's future competitiveness: trade and foreign investment. These elements will be essential for Ukraine's long-term recovery and successful integration into the EU. We reflect on the nation's inherent economic potential and the structural adjustments that Ukraine has made in response to Russian efforts

to increasingly undermine its free development. In 2014, following the Revolution of Dignity and Kyiv's commitment to deeper integration with Europe, Russia illegally annexed Crimea by force and gradually expanded its presence in the region. Then, in 2022, Russia launched its full-scale war on Ukraine – during which the Ukrainian economy has demonstrated unexpected resilience.

Now is the time to lay the groundwork for Ukraine's full integration into the EU. This will involve undertaking reconstruction and recovery within a framework of extensive legal alignment with the EU and advancing key political reforms – especially in anti-corruption, legal and judicial areas. Such reforms will be crucial for lowering entry barriers for foreign investors and further reducing trade barriers, an area of reform where the AA/DCFTA has already made significant contributions.

We first trace how trade patterns shifted between 2013 and 2021 in addition to providing an overview of how the Ukrainian economy has significantly changed over this period (section IV).

Before Russia's full-scale invasion in 2022, Ukraine had established itself as a competitive global supplier of agricultural products and information technology (IT) services. With a generally liberal trade regime and free trade agreements covering over half of its trade in 2021, Ukraine had become open to global competition.

We then outline specific changes in trade as of 2022, namely, the shifts in Ukraine's trade geography as well as in the structure of Ukraine's goods and services trade prompted by the full-scale war (section V).

Despite severe economic disruptions, Ukraine has remained fully functional, and its reform efforts were resumed in mid-2022 despite martial law. In 2022, Ukraine's real gross domestic product (GDP) dropped by 29 percent, or far less than the initially expected reduction of up to 45 percent (World Bank estimates in April 2022). In 2023, real GDP increased by 5.7 percent (National Bank of Ukraine 2024). This comes as a result of rebuilding efforts and new initiatives, such as the relocation of production facilities and infrastructure development – and of the fact that the creative entrepreneurial spirit has remained strong despite the war.

At the same time, Ukraine's (temporarily fully) liberalised access to the EU market as a result of the large-scale war has highlighted challenges for the EU accession process. We address the particular dilemma of how some EU member states are blockading the entry of Ukrainian goods and consider how the collective European interests could be prioritised over the national interests of individual EU member states (section V.4).

For reconstruction to be successful and for the benefits of integrating into the EU to be maximised, Ukraine needs to have an internationally competitive economy that can withstand the competition in both the EU and global markets. Apart from strengthened labour capital and accelerated infrastructure development, a central part of modern global competitiveness is successful integration into global value chains (GVCs), which facilitates technological transfer and functional upgrading. In section VI, we analyse Ukraine's potential areas of international competitiveness, looking at which sectors Ukraine already has a competitive advantage in and which sectors it is expected to strengthen its competitive edge in by estimating its revealed comparative advantages, the degree of its participation in GVCs, and its capacity to use, adopt and adapt frontier technologies.

In section VII, we look at challenges and opportunities for Ukraine to attract FDI, as this factor will play a vital role in Ukraine's recovery and be a prerequisite for its economic catch-up process.

In section VIII, we present case studies of Ukrainian industrial sectors and explore opportunities for integration into EU supply chains, highlighting the potential to support the EU's digital and energy transitions. We identify six industries in which a combination of industrial policy, an FDI-attraction strategy, and institutional and education reforms should allow Ukraine to maximise its post-war recovery potential. These sectors are expected to play a crucial role in Ukraine's reconstruction as well as in facilitating Ukraine's integration into the EU economy.

A new geopolitical reality, in which trade is also weaponised for political purposes to achieve foreign policy goals, means that the paradigm of "Wandel durch Handel" (change through trade) has not prevailed in international relations despite the high degree of interde-

pendence achieved through globalisation. The EU has had to recognise that its extensive integration into the global economy is in part a liability and that it needs to start developing new tools to reinforce its economic security (Höra and Weiss 2024). For Ukraine, this means an added incentive to develop its considerable renewable-energy and critical-minerals sectors.

Overall, Ukraine is incentivised to adopt cleaner production methods in order to uphold the competitiveness of its exports to the EU in sectors like agriculture, metals and energy, because otherwise they could be affected by the EU's Carbon Border Adjustment Mechanism (CBAM), which is designed to level the playing field for European companies by imposing a carbon tariff on imports from outside the EU. Ukrainian energy-intensive products would become less competitive in the EU market if Ukraine does not invest in cleaner technologies and align with the EU's green transition. The extent to which Ukraine's exports are affected will depend on the final structure and rates of CBAM – and on whether the Ukrainian economy will also prove to be adaptable in this regard and scale up existing practices.

We finish the study with recommendations for EU policymakers on how to support FDI and trade growth in the identified sectors so as to maximise Ukraine's recovery potential (section IX). In making these recommendations, we aim to contribute to the development of a medium- to long-term perspective for bringing about structural adjustments and targeted investments aligned with sector-specific priorities. The objective is to optimise Ukrainian capacities within the framework of the EU accession trajectory, alongside the necessary reforms and transformative initiatives, from which both Ukraine and the EU could collectively benefit. While we reference war risk insurance as a specific policy measure, our focus remains on exploring Ukraine's inherent potential through the lens of economic investment and trade. A detailed examination of policies designed specifically for wartime conditions is beyond the scope of our study.

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## IV. Structural shifts in external trade between 2013 and 2021

Ukraine has undergone a significant structural shift in its sector and geographic trade structure since Russia's annexation of Crimea and the onset of the military conflict in the Donbas in 2014. Its trade structure changed because of the occupation, the loss of industrial capacity in the east, and its deepening ties with the EU after the Association Agreement (AA) with the European Union (EU) was signed and provisionally applied starting in 2014.

The economy invaded in 2022 was very different from the one invaded in 2014 – more reliant on agriculture and services, less reliant on the extractive industry and metallurgy, and somewhat modernised. An abridged list of the changes that Ukraine has undergone since 2013 could include: widespread deregulation, the switch to digital public services, opened public registers and fiscal data, award-winning reforms in public procurement, the switch to up-to-date international standards in and a cleanup of the banking system, major reforms in gas and electricity markets based on the EU's Third Energy Package, agricultural land reform, a reform and comprehensive decentralisation of the public administration, the establishment of the new anti-corruption institutional framework, and ongoing alignment with the EU's product safety requirements.

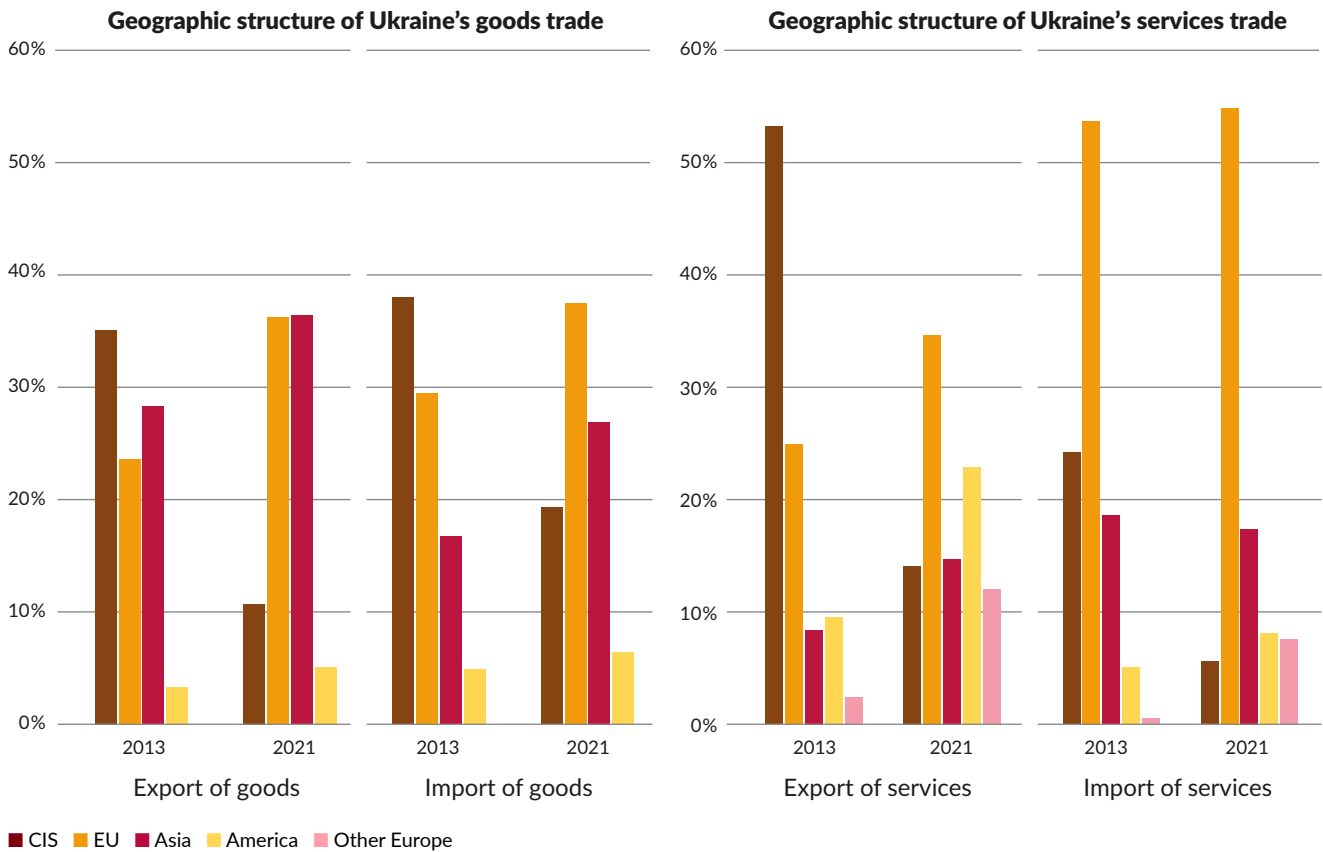
The list of changes that still need to be made is admittedly long. For example, Ukraine must complete the reforms of the judiciary and law enforcement institutions in general; strengthen and protect property rights, including intellectual property rights (IPRs); improve public and multi-level governance; address labour market rigidities and infrastructure bottlenecks; and create a business-enabling environment that attracts significantly more private capital.

However, it does not make sense to think of Ukraine's trade and investment integration with the EU as just starting. Rather, the integration already ongoing in

many areas must be recognised. In fact, in some ways, Ukraine has already been more normatively integrated into the EU than other current accession candidates and is broadly comparable with EU member states in Central and Eastern Europe when they were granted candidate status. According to Emerson and Blockmans (2023), Ukraine holds a middling position among 10 current EU candidate countries in terms of its readiness for accession. Ukraine ranks first, with a score of 3.1 (out of 5), for political and legal fundamentals, and fifth, with a score of 2.1 (out of 5), for economic and administrative readiness. That will all matter for the future and help to determine what will be the correct policies to pursue.

In 2023, the government of Ukraine conducted a self-screening of the country's alignment with the EU *acquis*. Out of 28,000 EU legal acts that were analysed, over 22,000 were classified as those that do not require implementation at the current stage (these include, for example, protocols, recommendations, reports, conclusions, decisions and EU international agreements). In addition, about 1,400 legal acts were defined as already implemented, and about 3,000 as requiring full or partial implementation. By way of comparison, fewer than 1,000 acts of the EU *acquis* were embedded in the entire AA, including a Deep and Comprehensive Free Trade Area (DCFTA). Although the future tasks are dauntingly large, the implementation of the AA/DCFTA has prepared Ukraine for the challenge. Despite its smaller scope, the AA contained the most fundamental elements of the EU *acquis*, pursuing the aim of establishing economic integration with Ukraine. The AA/DCFTA has already set the scene, so to speak, for aligned safety regulations, competition and state aid policy, public procurement, company law, financial services, consumer protection, energy and transport policies, digital transformation, etc. And even though Ukraine has not completed the alignment yet, the lion's share of the preparatory work has already been done,

FIGURE 1: Ukraine has significantly changed the geographic structure of its foreign trade since 2013



Source: National Bank of Ukraine

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thereby paving the way for a smoother and faster accession-driven alignment.

## IV.1. Pre-war shifts in Ukraine's trade geography

The changes to Ukraine's trade geography were impressive even before the full-scale war. Figure 1 shows that the share of the states of the Commonwealth of Independent States (CIS) – and, predominantly, of Russia – in Ukraine's exports and imports of goods and services decreased over the 2013–2021 period. In goods trade, the CIS was replaced by the EU, Asia (primarily China) and Türkiye,<sup>1</sup> which became the main destinations of Ukraine's merchandise exports

<sup>1</sup> In Ukraine's foreign trade statistics, Türkiye is classified as a country in Asia.

and the primary sources of its imports (accounting for 73 percent of goods exports and 64 percent of goods imports in 2021). The most striking development in services trade was an increase in the EU's and the US's shares in Ukraine's exports.

The reasons behind these changes were multifaceted. First and foremost, Ukraine's economic relations with the EU have become closer after the country concluded the AA/DCFTA in June 2014.<sup>2</sup> Not only has the value of trade with the EU grown, but the share of new products and products with a higher degree of processing in exports to the EU has also been increasing (Giucci, Movchan and Kirchner 2019).

<sup>2</sup> The DCFTA has been provisionally applied since 1 January 2016. However, the EU already opened its market unilaterally to Ukraine in April 2014, with autonomous trade measures replicating the first year of the DCFTA tariff schedule.

Ukraine's exports to the EU have been almost as diversified as its total exports in terms of product variety, with Ukraine shipping to the EU about 75 percent of its entire export nomenclature – or roughly 2,900 tariff lines of Harmonised System six-digit product categories.<sup>3</sup> In comparison, at its peak, Ukraine's exports to China only included about 300 tariff lines. Ukraine's exports outside the EU and the CIS have concentrated on several main products, including grains, sunflower seed oil, iron ores and ferrous metals.

However, Ukraine has gradually expanded its range of exports to the rest of the world, while also using its harmonisation with the EU safety requirements as a selling point for exports elsewhere.<sup>4</sup> This has particularly been the case for animal-origin products, such as poultry and dairy products, which require substantial legal preparations and institutional adjustments in state oversight and business practices to receive export verification for the EU market. Between 2013 and 2021, Ukraine's agro-food exports increased by 57 percent, of which product diversification explains 43 percent of the expansion while an increase in supplying existing products accounts for the rest.<sup>5</sup>

We do not observe a straightforward product reorientation of the trade from Russia to the EU, especially in exports. For example, railways equipment, which used to be one of the essential export items for the Russian market, has not yet found its niche in the EU. Instead, Ukraine expanded exports of goods already present in the EU market, such as grains and metals. In addition, it started to explore new niches using opportunities provided by tariff liberalisation and lower non-tariff barriers. For instance, Ukraine began to export butter to the EU after the country's dairy producers were verified. Although this opened a new export niche, it did not replace Russia's lost market for hard cheeses. Furthermore, the AA/DCFTA fostered the development of the cluster of automotive spare parts in western

Ukraine, with a particular focus on ignition wiring sets. In 2015 and 2016, multiple new production facilities were opened (see more in section VIII.4).

In services trade, the increase in the EU's and the US's shares in Ukraine's exports reflected Ukraine's growing specialisation in IT and software (see more in section VIII.6). The expansion of IT exports explains the much higher share of the US in Ukraine's services exports than in goods exports.

Looking at the distribution of external trade between goods and services reveals that between 2013 and 2021, export expansion took place mostly for goods (Figure 2), with annual goods exports increasing by about 20 percent during this period. In contrast, services exports contracted by about 9 percent, with the most significant decline being recorded in the transport sector (pipeline and rail transport), which was caused by the weakened economic links with Russia after its occupation of Crimea and parts of the Donbas and declines in transit to/from Russia. The IT services sector stands out as the one with skyrocketing growth, which led its share in total exports to increase during the 2013-2021 period by about seven percentage points, to 8.5 percent. In imports, the trends were somewhat different, with the value of goods imports declining by about 4 percent and that of services imports stagnating.

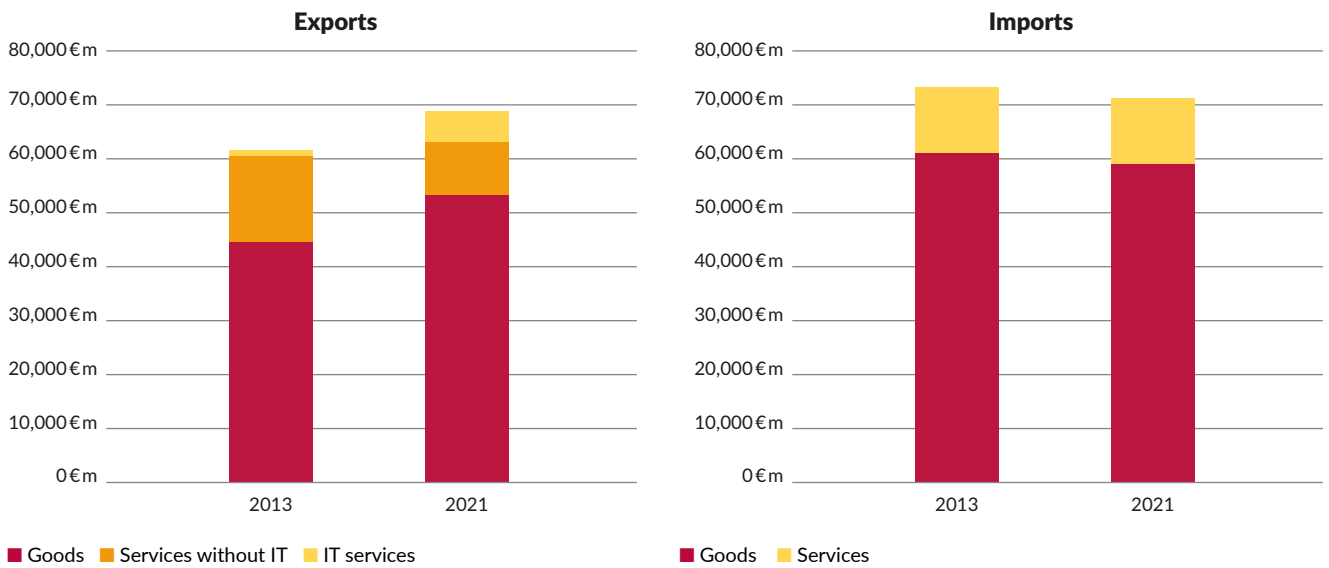
It is worth noting that Ukraine's merchandise export geography and reorientation patterns differ from those of its neighbours. While the commonality is that the EU is the largest partner and its role has increased over the last decade, the share of the EU in exports has been significantly lower in Ukraine than in its direct neighbours within and outside the EU (Poland, Romania, Moldova) – about 40 percent in Ukraine versus about 60 percent in other countries (Figure 3). Moreover, Ukraine has been the only country with a substantial expansion of exports to China, although these exports are concentrated in a few commodities (ores and grains).

3 The Harmonised Commodity Description and Coding System (HS), commonly referred to as just the Harmonised System, is an international product classification system developed by the World Customs Organization. It comprises around 5,000 six-digit product categories organised in a hierarchical structure and supported by implementation rules and explanatory notes. See <https://trade.ec.europa.eu/access-to-markets/en/content/harmonised-system-0>.

4 For companies that already have permission to export to the EU, getting permission in other countries becomes easier (gov.ua 2018) owing to the stringent nature of EU requirements and companies' strengthened capacity to adhere to safety regulations.

5 Based on results of the WITS estimates of the margin of trade for agricultural products in the WTO definition. Ukraine's export geography has always been extensive.

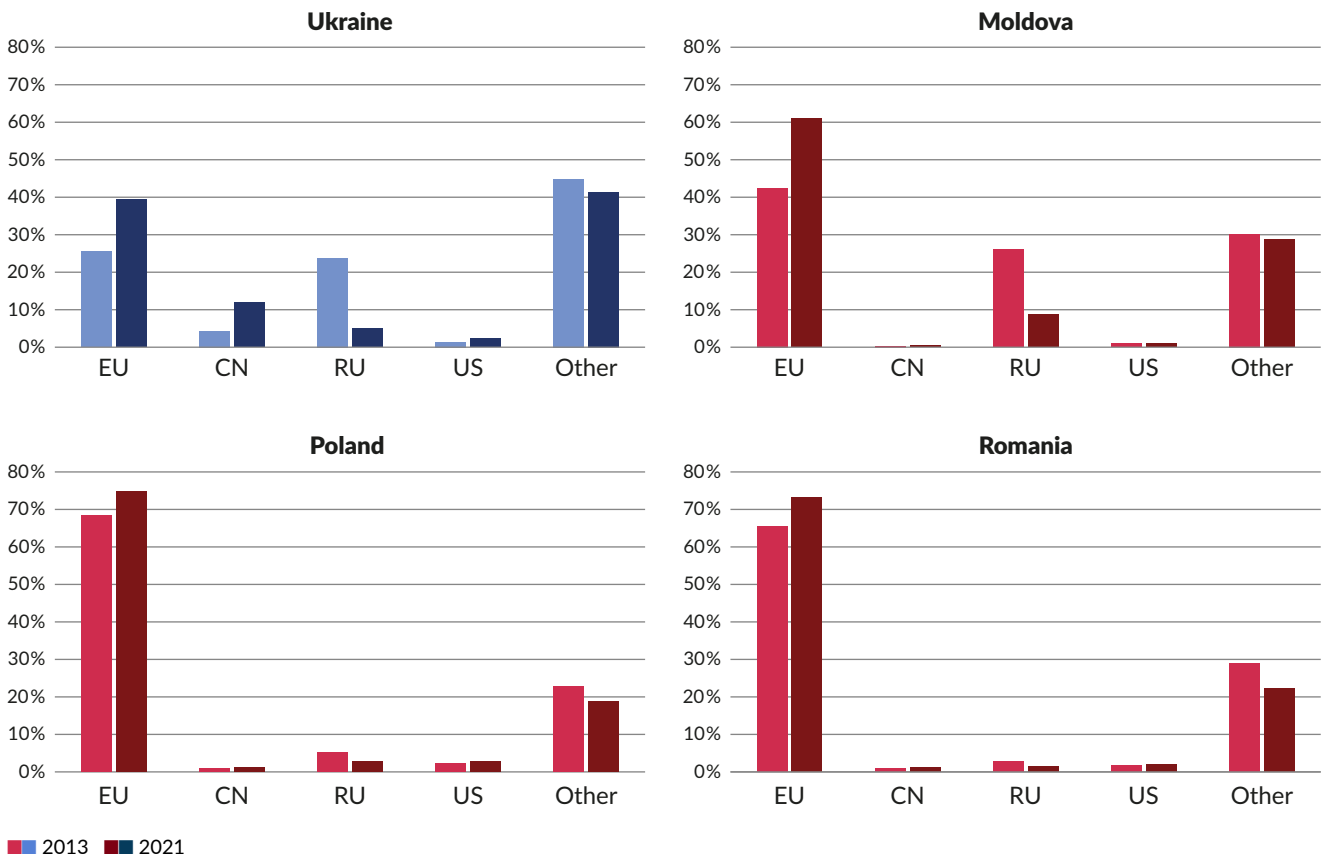
FIGURE 2: Ukraine's export growth since 2013 has primarily been in goods (and IT services)



Source: National Bank of Ukraine

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FIGURE 3: The share of the EU in goods exports has been significantly lower in Ukraine than in its direct neighbours



Note: Geographic structure of exports of Ukraine and its neighbours, in %.  
Source: Eurostat

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## IV.2. Pre-war shifts in the structure of Ukraine's goods trade sector

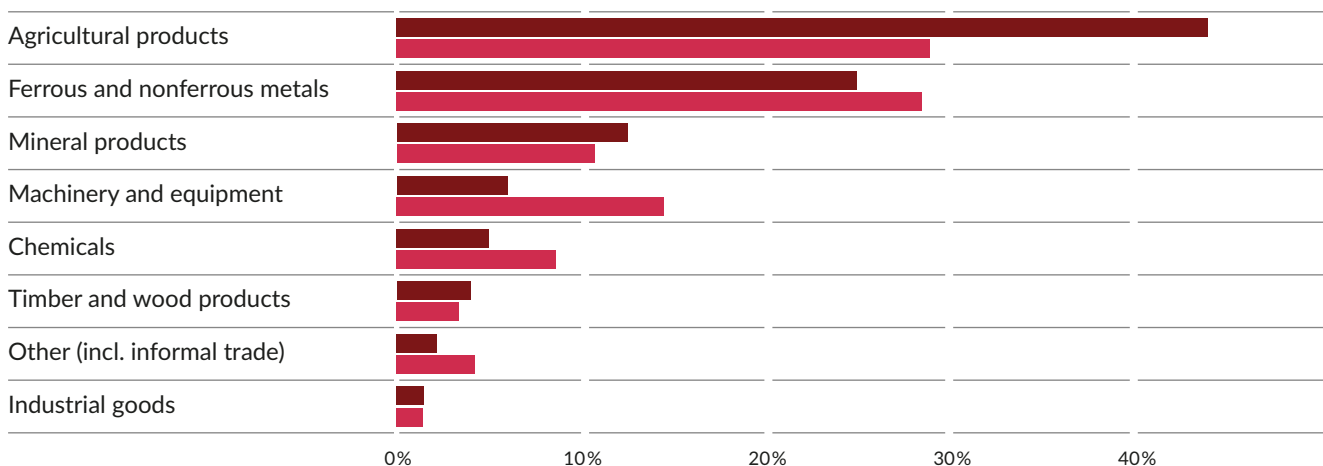
Analysis of the changes in the goods trade structure reveals a striking increase in the share of agriculture and food products in Ukraine's exports – from 29 percent in 2013 to 44 percent in 2021 (Figure 4). These changes are related to two main factors. On the one hand, it is the reduced industrial exports because Ukraine lost a big chunk of its industrial base in the Donbas region and sharply lowered its exports to

Russia, mainly of machinery and transport equipment. On the other, the growing crop yields and market openings contributed to expanding agricultural production and exports.

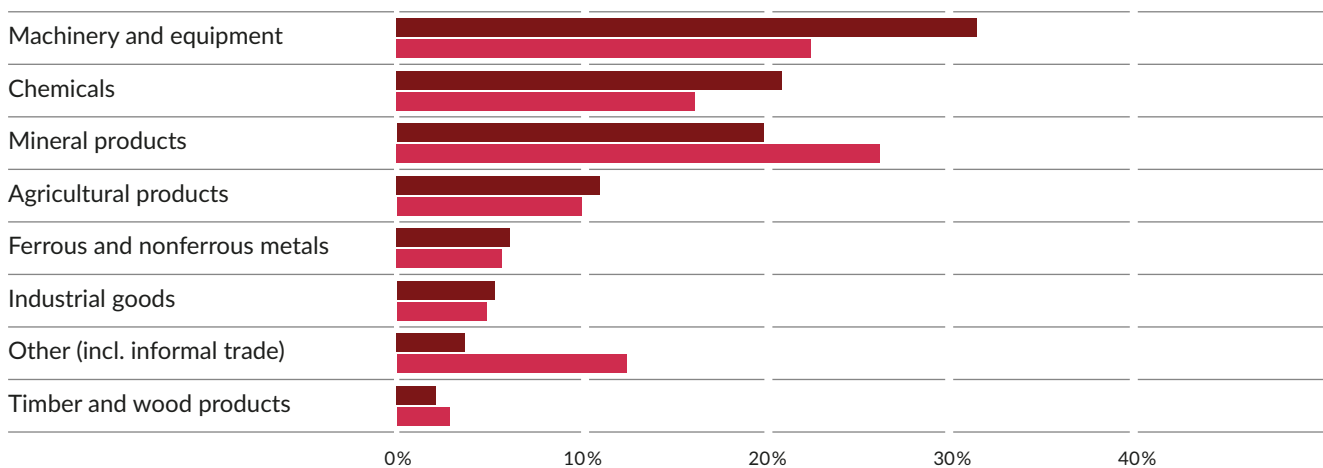
According to the State Statistics Service of Ukraine (Ukrstat), the average yield of cereal and leguminous crops was 5.4 tonnes per hectare (ha) of the harvested area in 2021, or double what it was in 1991. Ukraine has come close to Poland in terms of wheat yields and surpassed it for corn (maize) yields (Figure 5). The growing yields should be primarily attributed to changes in Ukraine's sector structure, with the devel-

FIGURE 4: The product structure of Ukraine's trade has changed dramatically since the onset of the military conflict in the Donbas in 2014

### The structure of Ukraine's goods exports



### The structure of Ukraine's goods imports

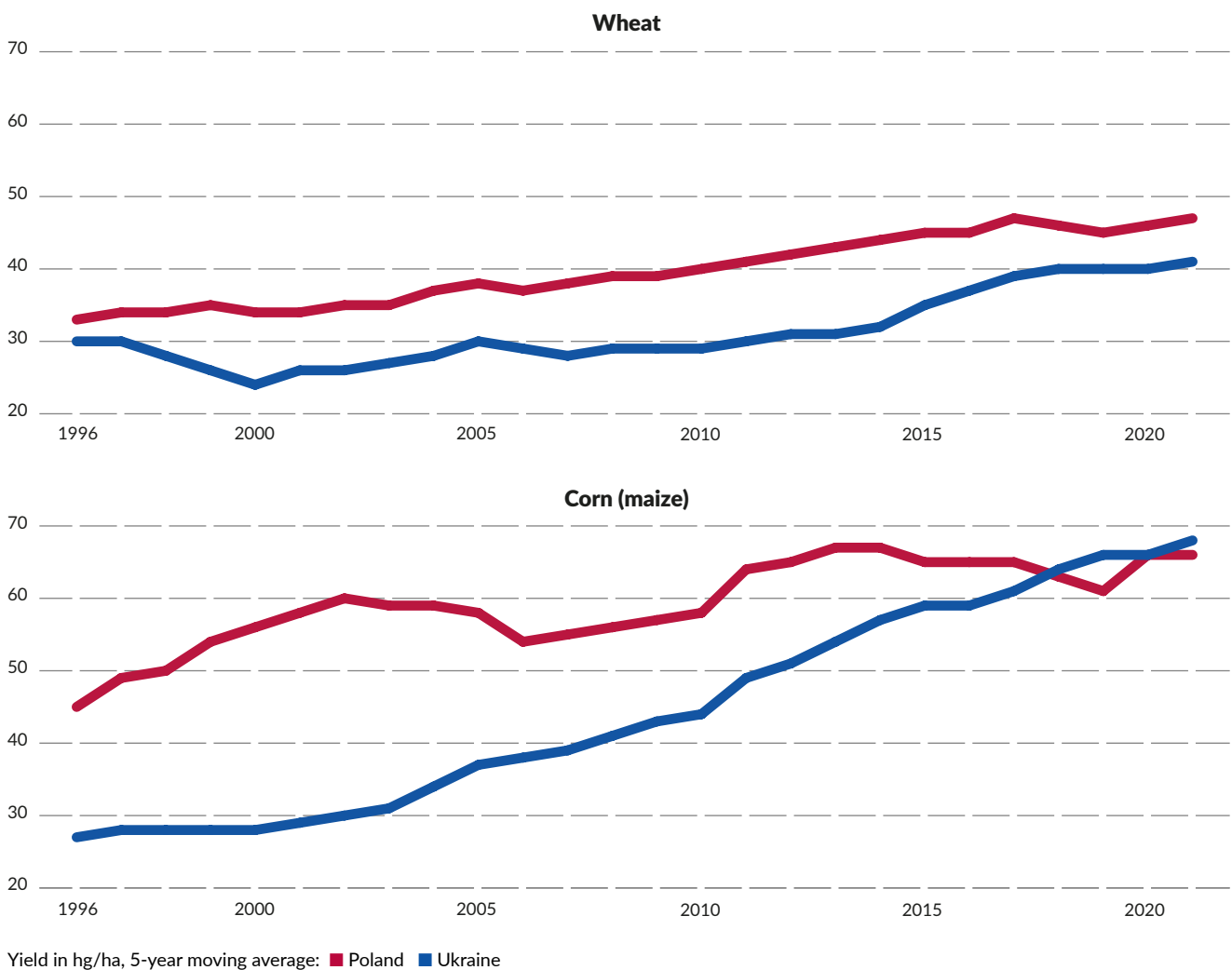


■ 2013 ■ 2021

Source: National Bank of Ukraine

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FIGURE 5: **Ukraine's and Poland's key crop yields had almost converged before Russia's full-scale invasion of Ukraine in 2022\***



\* Poland was chosen for comparison due to its similarity in climate, population and agricultural specialisation as well as, to a certain extent, common economic past.  
Source: FAO

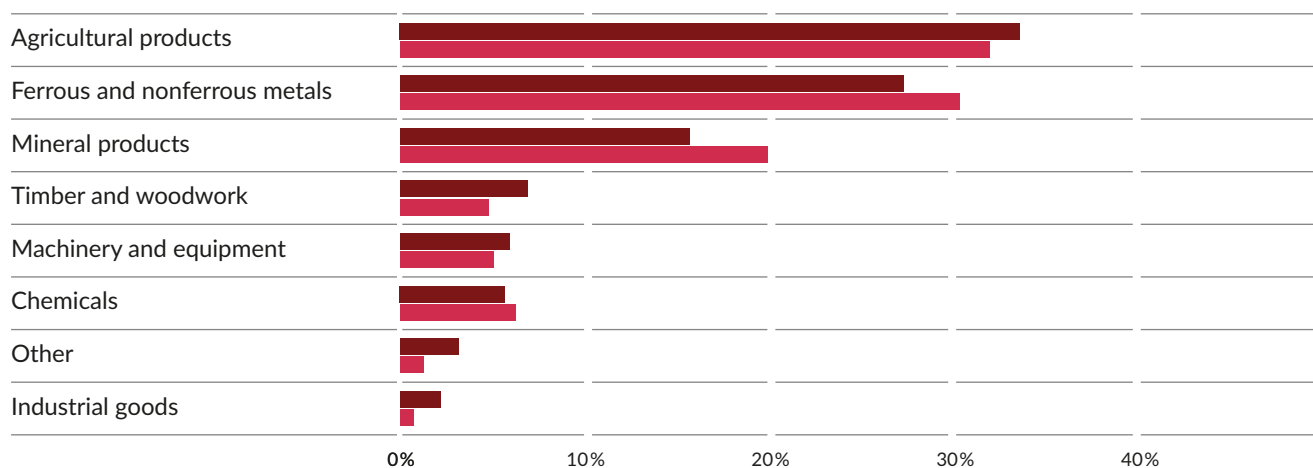
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opment of agricultural holdings controlling large land banks and benefiting from extensive economies of scale. The holdings accumulated sufficient resources to invest in new technologies and equipment, which in turn boosted production capacity. The AA/DCFTA has also contributed to the increase in productivity by offering an opening to the EU market, thus providing better access to the large market and improving access to inputs. In addition, this has stimulated the harmonisation of safety standards, the recognition of which has improved EU market entry and simplified the process of obtaining certificates in other destinations.

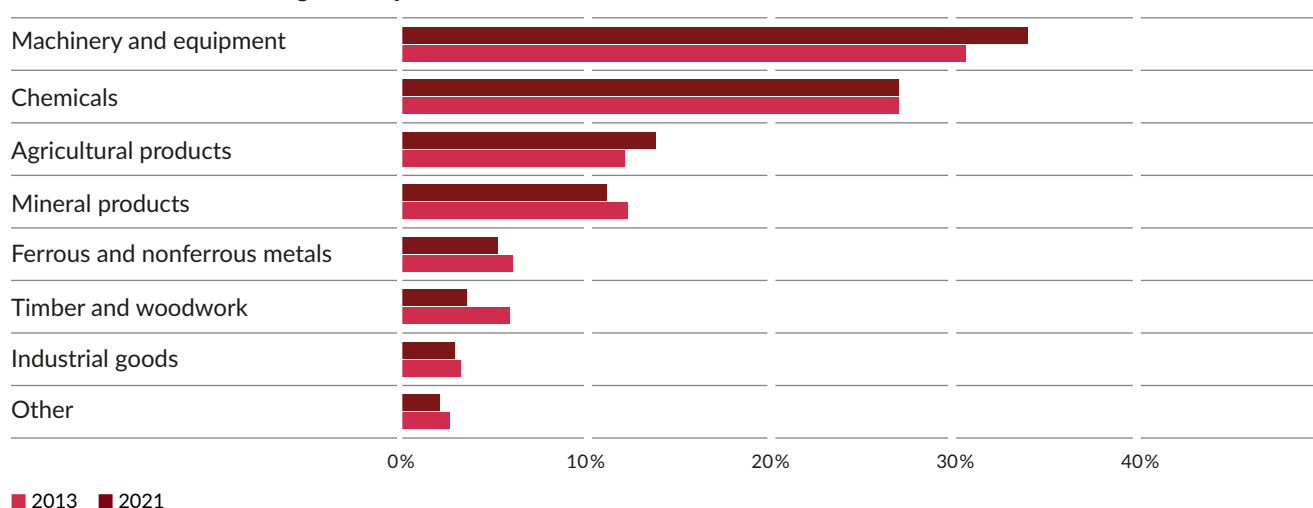
The changes in goods trade with the EU have been particularly important given the liberalisation boost provided by the AA/DCFTA. The agreement envisaged the elimination of import duties for all industrial and most agricultural products within up to 10 years, though the EU already abolished most duties in April 2014. Both the EU and Ukraine imposed tariff rate quotas (TRQs) with zero in-quota import duties for politically sensitive goods (Emerson and Movchan 2021). Moreover, the AA/DCFTA envisaged a gradual reduction of non-tariff measures (see the discussion in section IV.4).

FIGURE 6: **Unlike in trade with other partners, no significant shifts were seen in the aggregate product structure of trade with the EU**

#### The structure of Ukraine's goods exports to the EU



#### The structure of Ukraine's goods imports from the EU



Source: National Bank of Ukraine

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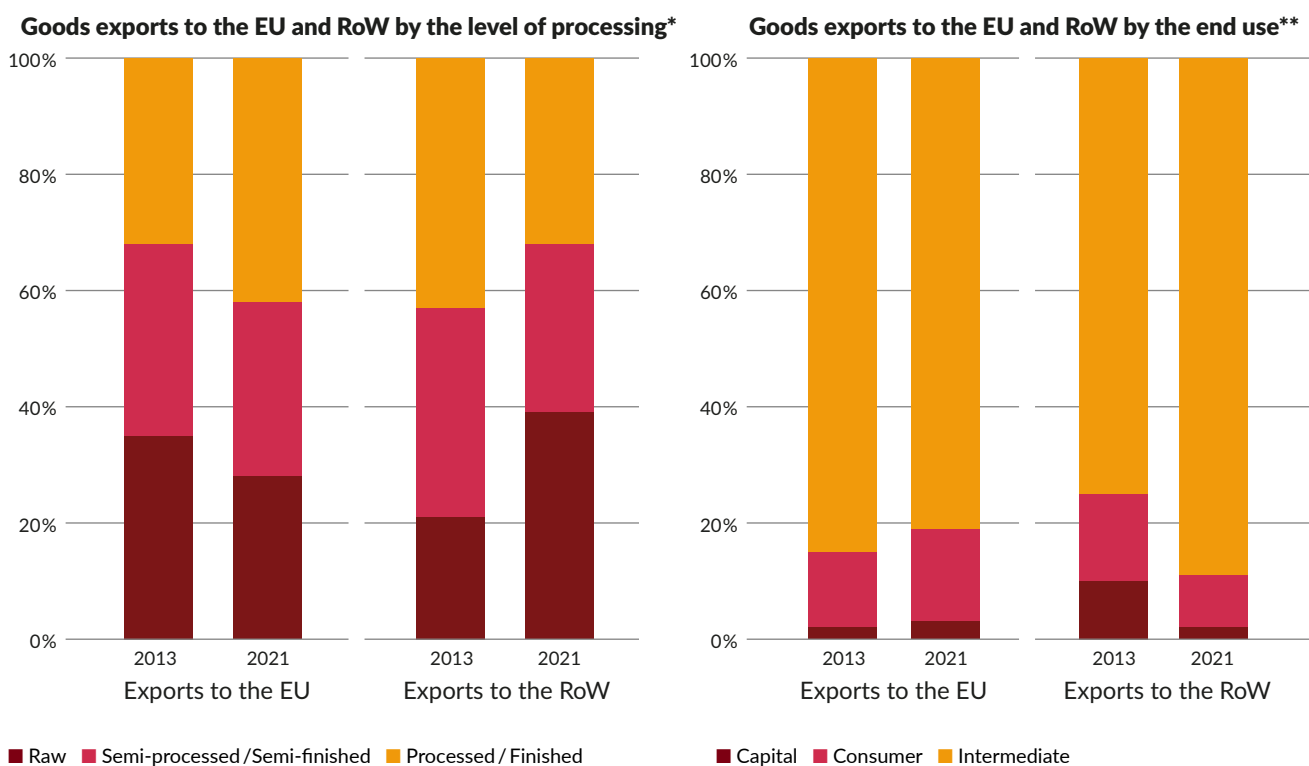
In nominal terms, Ukraine's merchandise trade with the EU grew strongly. Between 2013 and 2021, goods exports to the EU increased by 90 percent, to € 19.3 billion, while exports to other destinations remained at € 34 billion. Goods imports from the EU grew by a more moderate 25 percent, to € 22.8 billion, but still developed more strongly compared to the 16 percent reduction in imports from other countries.

The aggregated commodity structure of Ukraine's trade with the EU did not change much between 2013 and 2021 (Figure 6). For instance, agro-food products

accounted for only 33 percent of Ukraine's exports to the EU in 2021, or just one percentage point above their share in 2013. There is a considerable difference in the changed role of agro-food exports to other destinations, particularly to Asia. In imports from the EU, machinery retained the leading position, with 34 percent of the total, followed by chemicals (primarily fertilisers and pharmaceuticals).

At the same time, the qualitative characteristics of Ukraine's exports to the EU did change (Figure 7). Ukraine's exports to the EU moved away from raw materials and semi-processed/semi-finished products

FIGURE 7: The composition of goods exported to the EU shifted from raw materials to processed/finished products, supplying industry and final consumers



\* Based on MTN nomenclature. \*\* Based on BEC Rev 5, aggregated as follows: capital goods include capital/consumer and capital/intermediate goods; consumer goods include consumer/capital and consumer/intermediate goods; intermediate goods include intermediate/capital and intermediate/consumer goods.  
Source: WITS, own estimates

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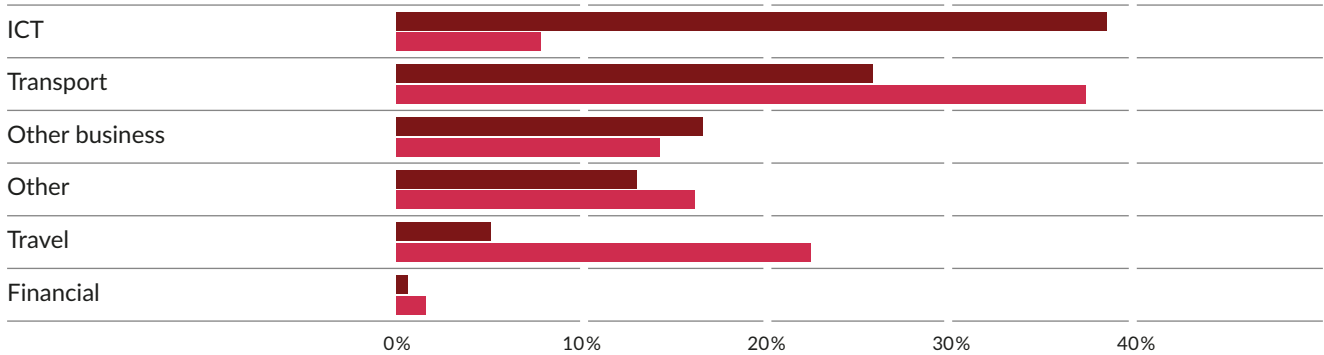
to processed/finished products, with the share of the latter increasing from 32 percent in 2013 to 42 percent in 2021. This trend was the opposite of what was observed in exports to other countries, where the share of raw materials grew from 21 percent to 39 percent in the same period. Most of Ukraine's exports are destined for EU industrial consumption, with the share of intermediate exports standing at 81 percent in 2021, or four percentage points down from 2013. These percentage points were distributed among consumer exports, whose share grew to 16 percent (+3 percentage points), and capital goods exports (3 percent, +1 percentage point).

### IV.3. Pre-war shifts in the structure of Ukraine's services trade sector

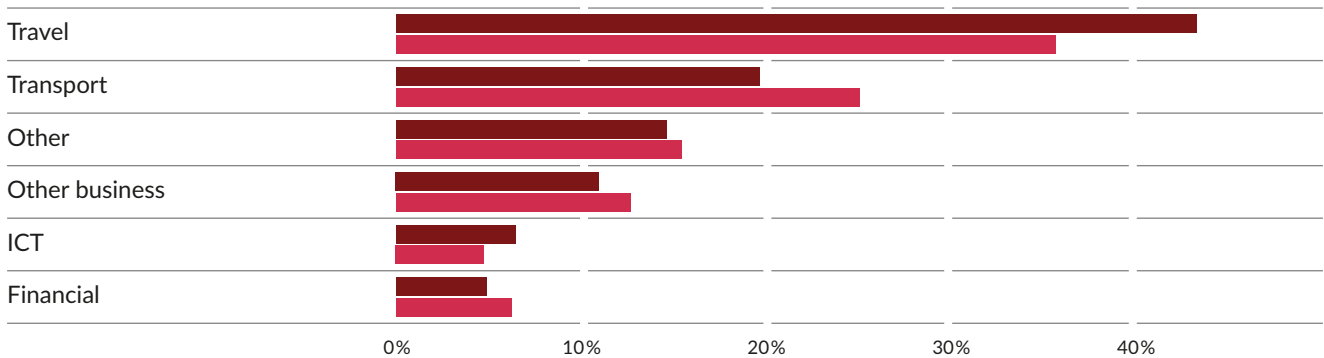
Ukraine's services trade structure has also been evolving since 2014 (Figure 8). In exports, the most pronounced change has been the boom in exports of computer (IT) services, which moved the information and communication technologies (ICT) sector to first place in the ranking of total services exports, accounting for 39 percent of the total in 2021. The ICT sector's boom (Figure 9) is explained by several factors, including Ukraine's solid education in maths and IT, favourable taxation for private entrepreneurs (not only those in IT), the possibility to work remotely for any client, and strong personal links with the US diaspora, including in Silicon Valley. Ukraine has several IT clusters, including in Kharkiv, Lviv and Kyiv, which have

FIGURE 8: Ukraine's services trade structure shifted away from transport services

**The structure of Ukraine's services exports**



**The structure of Ukraine's services imports**

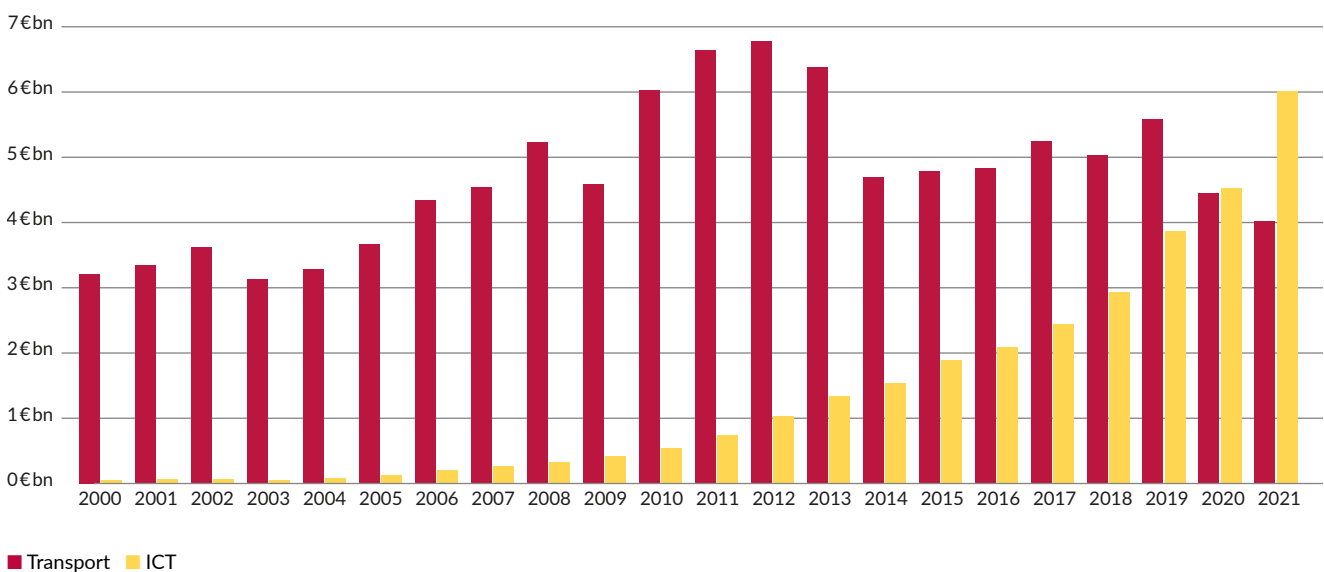


■ 2013 ■ 2021

Source: National Bank of Ukraine

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FIGURE 9: Ukraine's ICT exports have been booming, supplanting transport services



■ Transport ■ ICT

Note: Changes in the values of exports for transport services and ICT (in € bn)  
 Source: National Bank of Ukraine; Eurostat (exchange rate EUR/USD); own estimates

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mainly been servicing the US market (see details in section VIII.6, the case study on the IT sector).

In parallel with the expansion of the IT sector, Ukraine has faced a contraction of exports and imports of transport services. First, the traditional transit of gas and oil for Russia was reduced. Second, Russia's occupation of Ukrainian territories truncated access to land routes through Russia and Belarus. And, third, access to seaports in the Sea of Azov was restricted after the Crimean Bridge (AKA the Kerch Bridge) was built. In addition, it should be noted that Ukraine's exports of travel services had also significantly contracted following Russia's occupation of Crimea.

In services imports, the pre-war changes were less permanent. On the other hand, the share of travel has been growing, fuelled by the accessibility of Turkish and Egyptian resorts and visa-free travel to the EU.

#### IV.4. Key changes in trade barriers

The structural changes in Ukraine's trade have been influenced not only by the changes in Ukraine's economic structure but also by the key changes in economic and trade policy that occurred over decades but only started to bear fruit after 2014. Ukraine's market has gradually become much more open, with the effectively applied import duty falling from 7.5 percent in 1996 to 2.1 percent in 2021. As of the end of 2022, Ukraine had 19 free trade agreements (FTAs), covering over half of its goods trades, with a total of 47 partner countries. Talks regarding additional FTAs have been ongoing despite the full-scale war.

However, the most stunning change was seen in the reduction of the country's non-tariff barriers, which are the primary source of trade costs (Movchan and Rogoff 2022). Ukraine has been reforming non-tariff barriers, particularly technical barriers to trade (TBTs), sanitary and phytosanitary measures (SPSs), and customs procedures for decades, first to comply with the World Trade Organisation (WTO) accession requirements and then to harmonise its legislation with the EU *acquis*, motivated by the EU's commitment to mutual recognition/internal market treatment embedded in the AA. In the EU Enlargement Report

(European Commission 2023a), Ukraine received the grade "good level of preparations" (4 out of 5) for customs union (which covers customs procedures) as well as the grade "moderate level of preparations" (3 out of 5) for both free movement of goods (which covers the TBTs) and for food safety, veterinary and phytosanitary policy (covering the SPSs). It would be reasonable to expect that the EU accession talks and the gradual sectoral integration envisaged in the AA would be an important driver of continued progress in this area.

It is also worth noting that access to the EU market has not been the only positive impact of harmonisation. For example, as mentioned earlier, Ukraine's producers of poultry and dairy products have already used the EU recognition as a selling point to other markets. Moreover, Ukraine's alignment with EU regulations and, in particular, their mutual recognition have simplified access to Ukraine's market, thereby accelerating the penetration of new technologies.

The AA/DCFTA has also aimed to reduce trade barriers in the services trade. However, the scope of foreseen changes and the progress made to date have been less ambitious than it has for the goods trade. According to the 2023 EU Enlargement Report (*ibid.*), Ukraine demonstrates "some level of preparation" for the right of establishment and freedom to provide services as well as for financial services and transport. ITC services are the positive outlier, however, with Ukraine being evaluated as having "between moderate and a good level of preparation" in terms of digital transformation and media.

## BOX 1: Ukraine's reforms related to non-tariff measures in goods trade

**Technical barriers to trade (TBTs):** Ukraine has been reforming its technical regulations for over two decades, gradually erasing the Soviet legacy and building a system based on international and (now exclusively) EU norms and practices. As of the time of writing, Ukraine has almost completed its alignment with the framework EU *acquis* regarding TBTs. The entire EU corpus of standards has been transposed, allowing the country to become an affiliate member of the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC). The government has also done away with the country's long-lasting and cumbersome Soviet heritage of mandatory product certification. In addition, substantial progress has been achieved towards institutional alignment. According to the Pulse of the Agreement, the official monitoring tool for the AA's implementation in Ukraine, as of November 2023, the country had completed 89 percent of the tasks related to TBT legal approximation. The decision to open talks about the Agreement on Conformity Assessment and Acceptance of Industrial Products (ACAA) is expected in 2024, as the work of the EU's pre-assessment expert mission has been completed.

According to the 2023 EU Enlargement Report (European Commission 2023a), Ukraine is moderately prepared in the area of free movement of goods (Chapter 1), which encompasses TBT issues. The discrepancy is explained by the different scope of the AA/DCFTA and the *acquis* associated with Chapter 1. The latter is much broader, covering all harmonised and non-harmonised sectoral legislation. At the same time, Ukraine is close to completing its alignment of general principles' legislation, thereby establishing the identical principles as those of the EU framework, which will make it easier to implement the sectional alignment.

**Sanitary and phytosanitary measures (SPSs):** This represents another trade policy sphere in which reforms started as preparations for the WTO accession (2008) and intensified with the signing of the AA/DCFTA. Ukraine made extensive commitments covering over 250 legal norms. The Pulse of the Agreement reports that Ukraine had completed 81 percent of the legal approximation tasks as of November 2023. The key horizontal laws have been passed, including ones on

food safety and quality, food safety control, consumer rights, veterinary medicine, etc. The Hazard Analysis Critical Control Points (HACCP), which is the methodology aimed at reducing consumer food risks by controlling critical potential hazards, has been mandatory for all entities since 2019. The first equivalence recognition for certifying safety systems for grain seeds was achieved in 2020. The increase in Ukraine's agriculture exports to global markets demonstrates the success of the above-mentioned reforms.

The 2023 EU Enlargement Report assesses Ukraine as being moderately prepared in the area of food safety (Chapter 12), based on information provided as of June 2023. Again, the discrepancy is partly due to different scopes. Moreover, Ukraine has recently accelerated the adoption of sectoral legislation, so the focus is now expected to shift from the adoption phase to the proper implementation phase, which is the cornerstone of the country's readiness for accession.

**Customs:** The customs reforms have probably been the most debated, as all business entities involved in foreign economic activity deal with customs procedures. The fundamental changes have been related to introducing online administrative services for exporters and importers, such as an electronic "single window" at customs, and strengthened protection of intellectual property rights (IPRs) when moving goods across the border. Ukraine has launched the authorised economic operators (AEO) mechanism, simplifying customs formalities for traders to meet integrity criteria. In October 2022, Ukraine joined the EU Common Transit Convention and the Convention on the Simplification of Formalities in Trade in Goods, which facilitate the movement of goods across the EU and other common transit countries (Norway, Iceland, Switzerland, North Macedonia, Serbia, Türkiye and the UK) by applying a single customs declaration between the participating countries, mutually recognised financial guarantees and fewer controls. Based on the 2023 EU Enlargement Report, Ukraine has a good level of preparation in the area of the customs union (Chapter 29), which reflects recently achieved progress.

Note: Largely based on Movchan and Rogoff (2022). For "Pulse", the official monitoring tool for the AA's implementation in Ukraine, please see <https://pulse.kmu.gov.ua/>.

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## V. The changes in trade prompted by the full-scale war

Russia's full-scale invasion of Ukraine in 2022 spurred even more drastic adjustments to the economy and, thus, foreign trade. Many production assets in all industries have been damaged or destroyed, with the most significant impact being that on metals manufacturing and petroleum processing. Extensive internal and external migration has affected the labour market, although digital skills obtained during the Covid-19 pandemic have partly softened the impact. Trade logistics has been complicated by several factors, including: the loss of (full) access to ports on the Black Sea and the Sea of Azov; the limited capacity of alternative modes of transportation due to the shortages of railway freight wagons and staff as well as the destruction of storage facilities, railway lines and stations in Ukraine; and the capacity bottlenecks in the EU resulting from a lack of preparedness to reorient trade flows.

At the same time, the EU and other partners have offered multiple short-term measures, including temporary market access liberalisation,<sup>6</sup> and several transport-related initiatives (Kosse 2023) to mitigate the invasion's shock, unblock transport routes and thereby support Ukraine's economy.

### V.1. The war-induced shifts in Ukraine's trade geography

As a result of the negative stimulus of the war-induced logistic bottlenecks and the positive stimulus of the EU's unilateral liberalisation (see details in section V.4), in 2022, the EU's total share in Ukraine's goods exports

increased to 61 percent and in goods imports to 44 percent. These shares further expanded to 63 percent and 47 percent, respectively, in 2023.<sup>7</sup> At the same time, China's share dropped to about 5 percent in 2022 due to the lack of transportation options, although it recovered somewhat in 2023. Trade with Russia, on the other hand, has been completely outlawed.

At the same time, the changes in the geography of the cross-border trade in services have been much less EU-centric. Between 2021 and 2023, the EU's share in services exports increased by only four percentage points, to 39 percent, as the reduced role of the CIS and Asia in services exports was replaced not only by the EU but also by the US, whose share expanded by five percentage points, to 28 percent, in the same period. In 2022 and 2023, Ukraine's services imports were dominated by "traveling", which entails refugees' expenses in hosting countries, primarily the EU. However, the EU's share has been gradually declining with the growing importance of North America in 2022 and other countries in 2023 (Figure 10).

### V.2. The war-induced shifts in the structure of Ukraine's goods trade

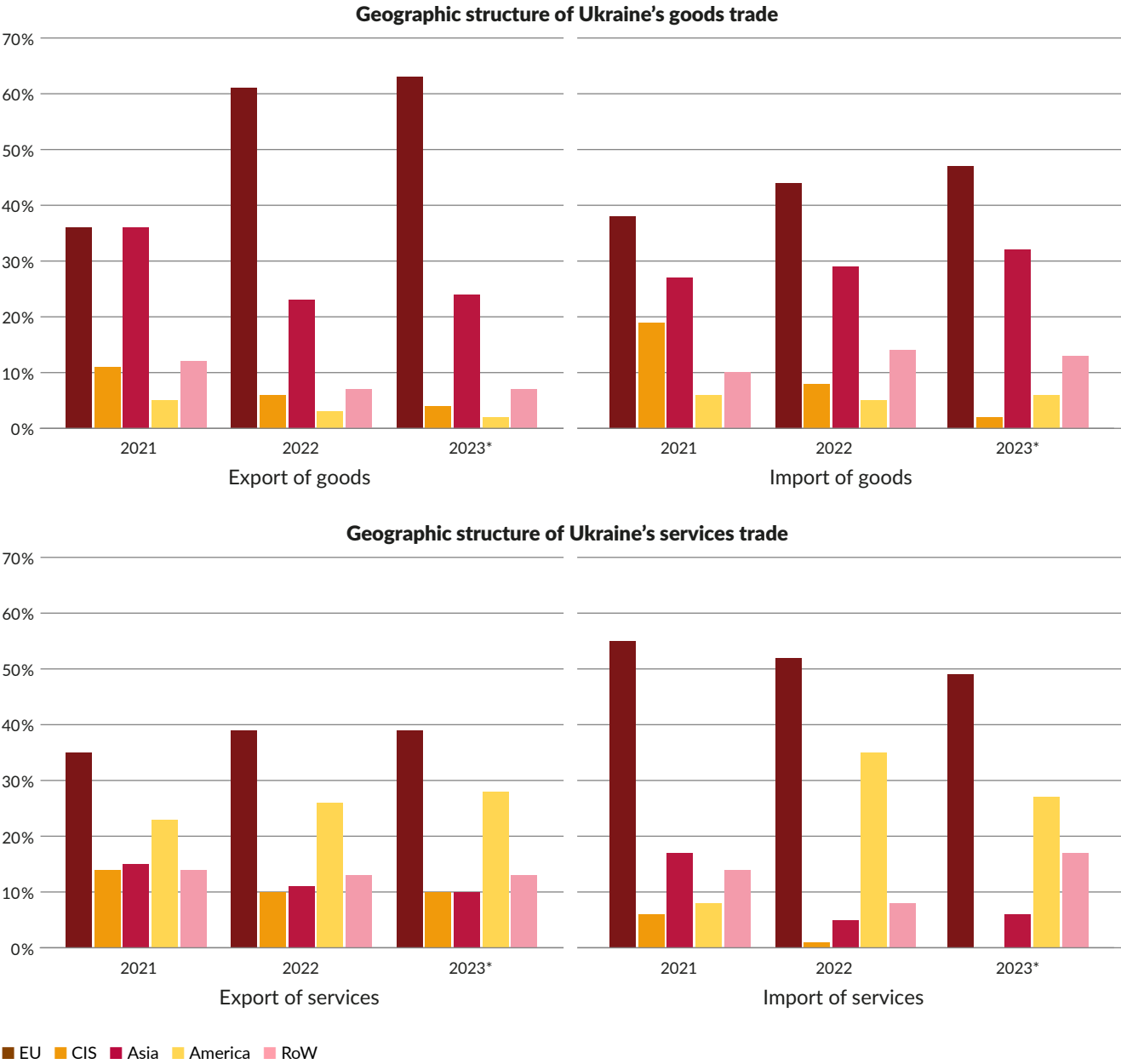
The impact of Russia's full-scale invasion has amplified trends observed beforehand regarding the product structure of Ukraine's merchandise exports (Figure 11). On the one hand, owing to the global efforts to bring Ukraine's grain to the world market, the export share

<sup>6</sup> Temporary market access liberalisation measures took different forms in different countries. The EU, the UK and Canada, which have FTAs with Ukraine, temporarily nullified the remaining import duties, suspended tariff rate quotas (TRQs) mostly related to agro-food products, and suspended trade remedies (safeguards, anti-dumping regulations) on metals. Even though it does not have an FTA with Ukraine, Australia still offered temporary duty-free access to its market, though the impact of this decision has been small due to distance- and logistics-related constraints. The US suspended safeguards on steel imports.

<sup>7</sup> According to the NBU data based on Balance of Payments and International Investment Position Manual BMP6 methodology. The customs data show even stronger reorientation towards the EU.



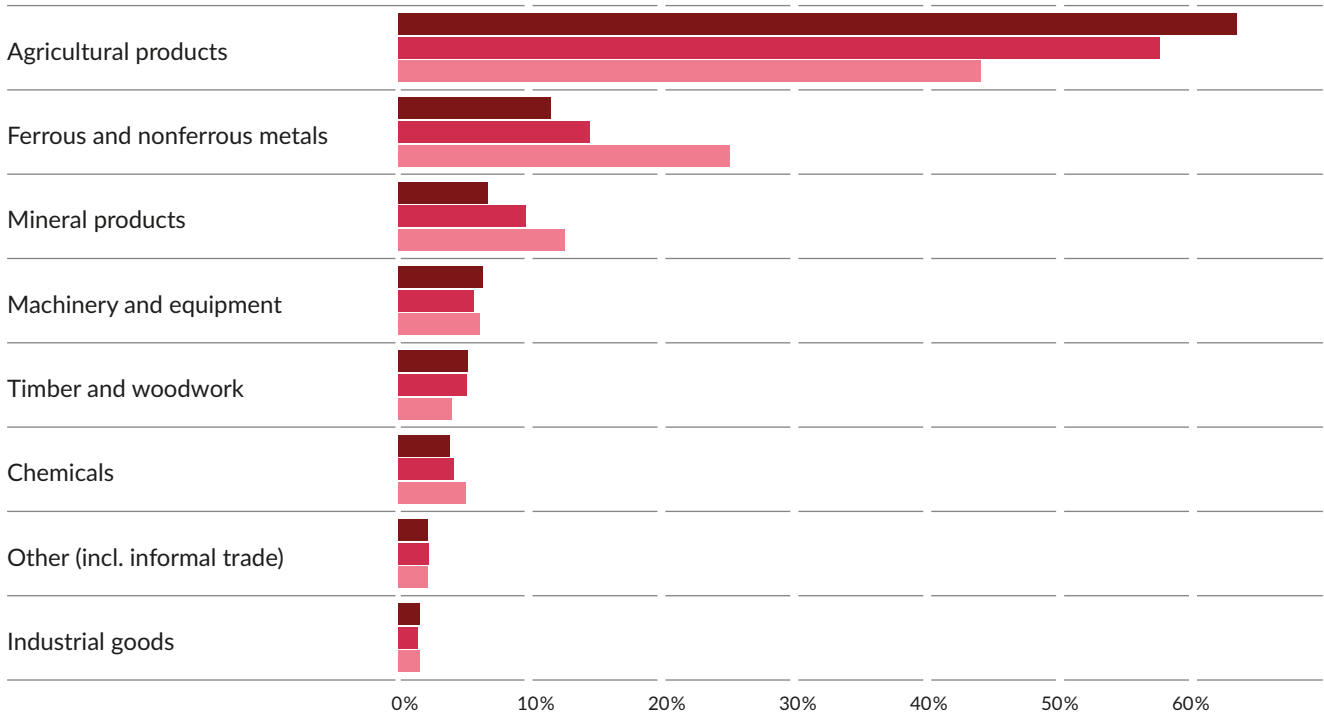
FIGURE 10: Russia’s full-scale invasion has sparked additional changes to Ukraine’s trade geography



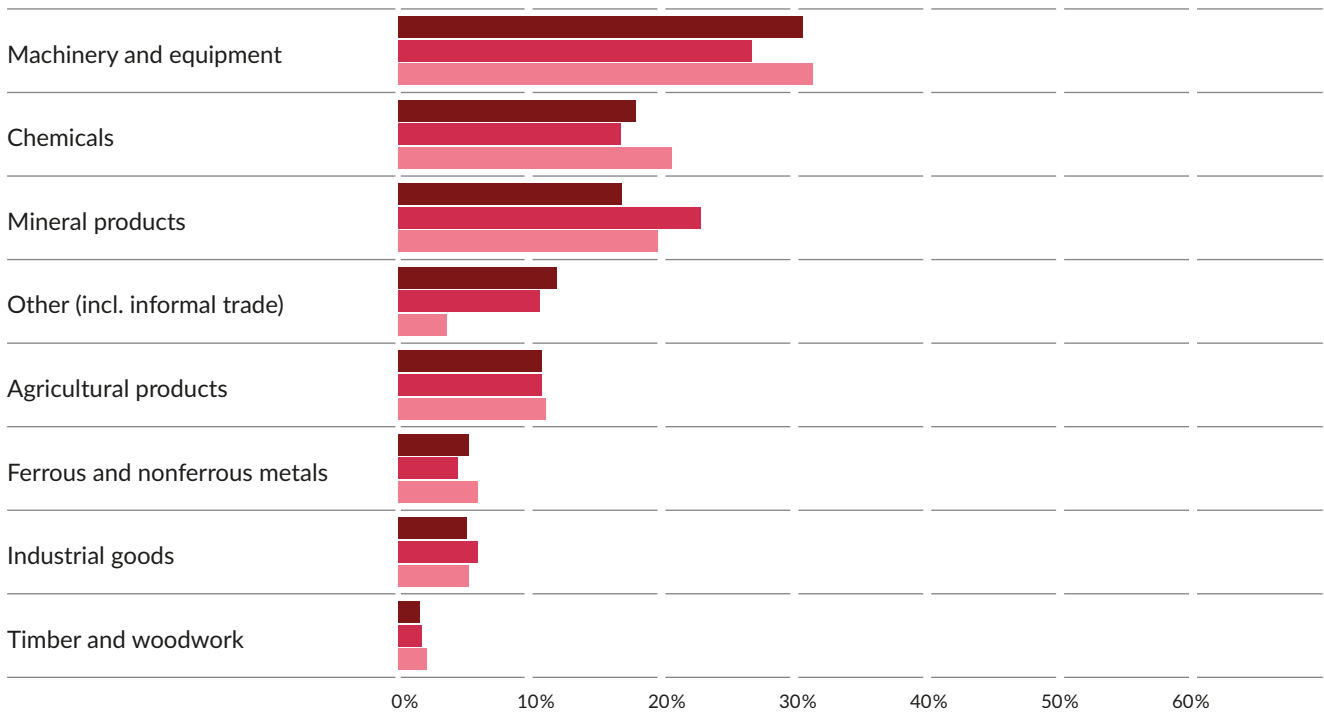
\* Based on the first three quarters of 2023.  
Source: National Bank of Ukraine

FIGURE 11: The full-scale war further strengthened the role of Ukraine's agro-food exports

**The structure of Ukraine's goods exports**



**The structure of Ukraine's goods imports**

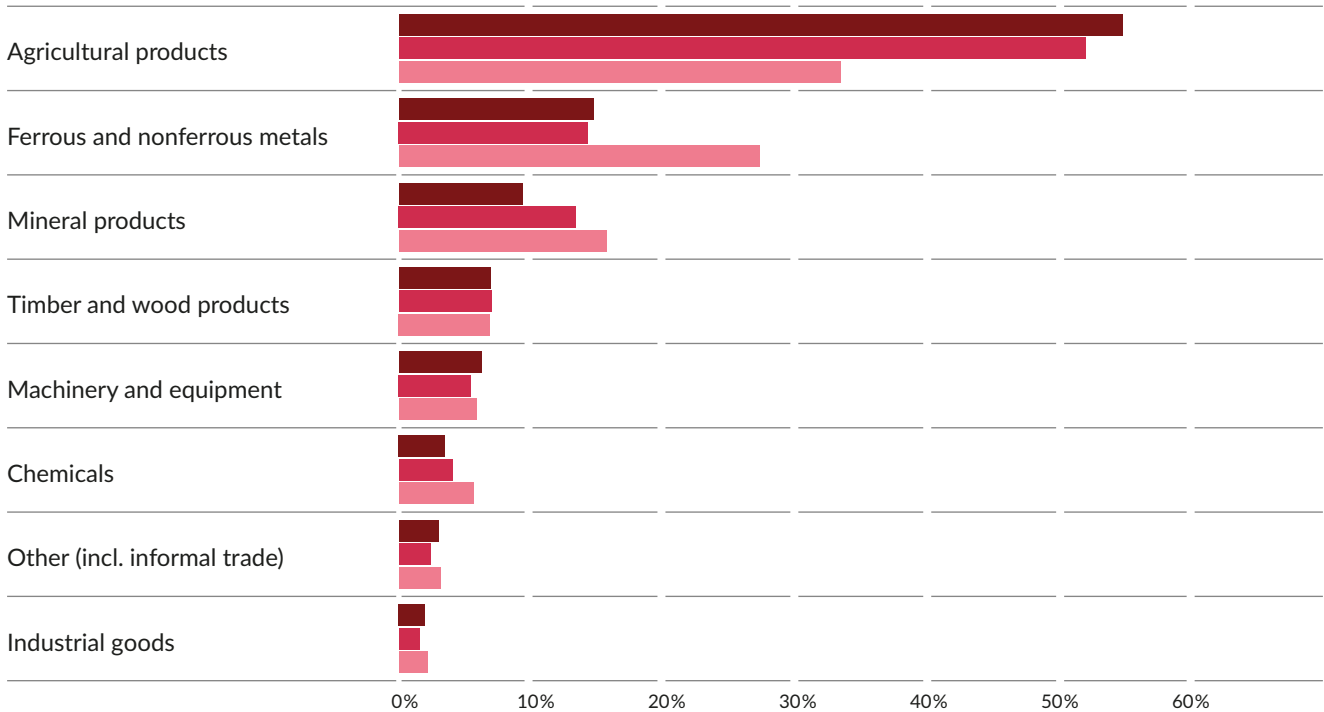


■ 2021 ■ 2022 ■ 2023\*

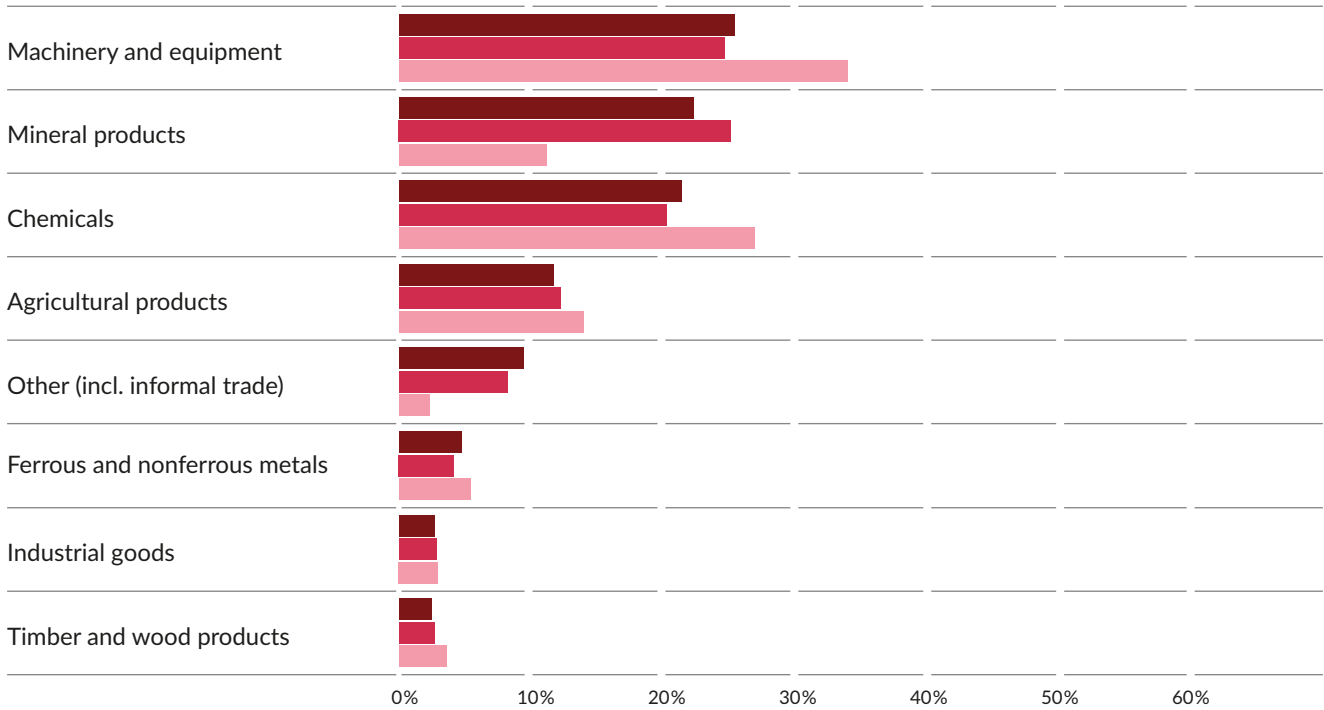
\* Based on January – November 2023.  
Source: National Bank of Ukraine

FIGURE 12: The changes in goods trade with the EU set the general trends

**The structure of Ukraine's goods exports to the EU**



**The structure of Ukraine's goods imports from the EU**



■ 2021 ■ 2022 ■ 2023\*

\* Based on the first three quarters of 2023.  
Source: National Bank of Ukraine

of the agri-food sector rose to 57 percent in 2022, or 13 percentage points higher than a year before, and further expanded to 63 percent in 2023. At the same time, the share of metals in exports dropped to 11 percent of the total in 2023, compared to 25 percent in 2021, as the sector lost its factories in occupied territories (primarily those in Mariupol) and faced significant logistical problems.

The most significant increase in merchandise imports was registered in the share of the “other” category, meaning non-disclosed imports (which are likely related to deliveries of weapons and ammunition). As the investment activity dropped in 2022, so did the role of imports of machines and equipment. However, the importance of investment imports grew again in 2023, spurred by the economic recovery and the need to replace destroyed assets and launch new production, particularly related to military and construction needs. At the same time, in a reversal of the previous trend, imports of mineral products increased again. This can be explained by the loss of domestic petroleum-processing and -storage facilities, while demand for fuel has remained high, especially in the military.

The structure of goods trade with the EU sets the general trends, with the growing share of agro-food in exports and of mineral products in imports (Figure 12).

### V.3. The war-induced shifts in Ukraine's services trade

The war has also changed Ukraine's trade in services (Figure 13). Massive external migration boosted imports of travel services to 71 percent of the total in 2022 and 2023, compared to 43 percent in 2021. ICT exports continued growing despite the war in 2022, bringing the ITC sector's share in services exports to 47 percent, or six percentage points higher than the share in 2021. However, increased costs, such as the need to invest in diversified energy and internet supply sources and bomb shelters (Sabadyshina 2023), as well as a high level of uncertainty, dragged down IT exports in 2023.

### V.4. The dilemma for Ukraine of the EU's liberalised market access

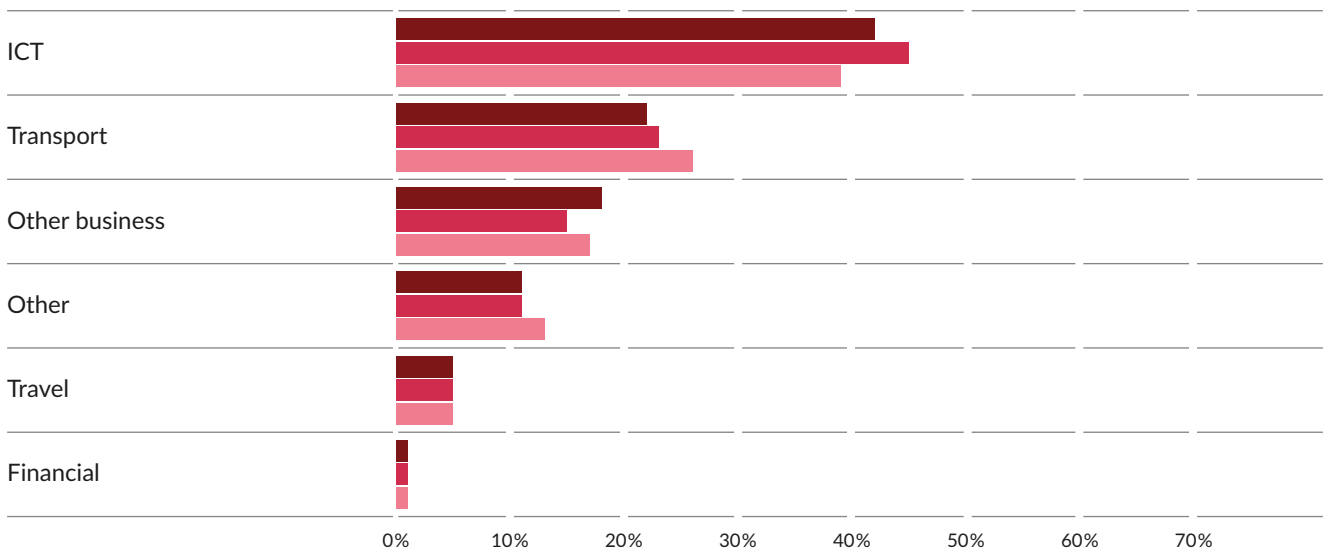
In 2022, apart from granting Ukraine candidate status and thereby setting the path for Ukraine's complete integration into the EU common market, the EU fostered Ukraine's short-term economic integration by (temporarily) removing all remaining tariff barriers.

The EU adopted a regulation (2022/870) allowing for temporary full trade liberalisation and the suspension of trade defence measures for one year starting in June 2022 and then prolonged it for another year, until June 2024. In 2022, these measures more than doubled Ukraine's exports of products under the DCFTA tariff rate quotas (TRQs) to the EU (Movchan and Polushkin 2023). While Ukraine's total merchandise exports to the EU increased by 5 percent in 2022, exports of goods subject to TRQs grew by 47 percent, thereby representing the key source of the expansion of total exports.

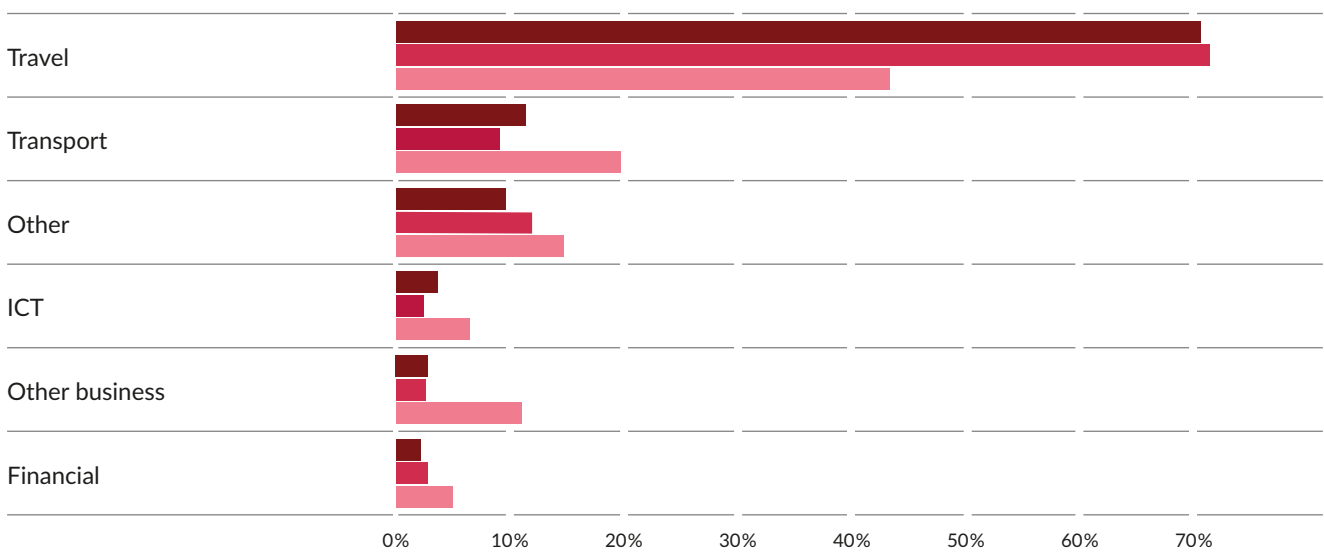
At the same time, the expansion of Ukraine's agri-food exports to the EU created political tensions among several EU member states starting in the spring of 2023. With global agricultural prices trending downward since autumn 2022 and its farmers protesting, Poland unilaterally banned imports and transit of Ukrainian cereals and many other agricultural products on 15 April 2023, justifying the ban by claiming that the products represented a threat to national security. While Hungary, Slovakia and Bulgaria banned imports (though not their transit), Romania only considered a ban. The transit through Poland was restored within a week, although with additional control procedures. On 2 May 2023, the individual bans were replaced by the EC's exceptional and temporary preventive measures on imports of wheat, maize, rapeseed and sunflower seeds from Ukraine (European Commission 2023b). These measures were lifted on 15 September 2023 after Ukraine agreed to introduce legal measures to avoid a rapid increase in grain exports to these markets in the future (European Commission 2023c). However, Poland, Slovakia and Hungary remained unsatisfied with the EC's decision and reimposed individual restrictions. In response, Ukraine initiated a consultation within the WTO as a mechanism for dispute settlement (WTO 2023).

FIGURE 13: The full-scale war caused further changes in the services trade structure

**The structure of Ukraine's services exports**



**The structure of Ukraine's services imports**



■ 2021 ■ 2022 ■ 2023

\* Based on January – November 2023.  
Source: National Bank of Ukraine

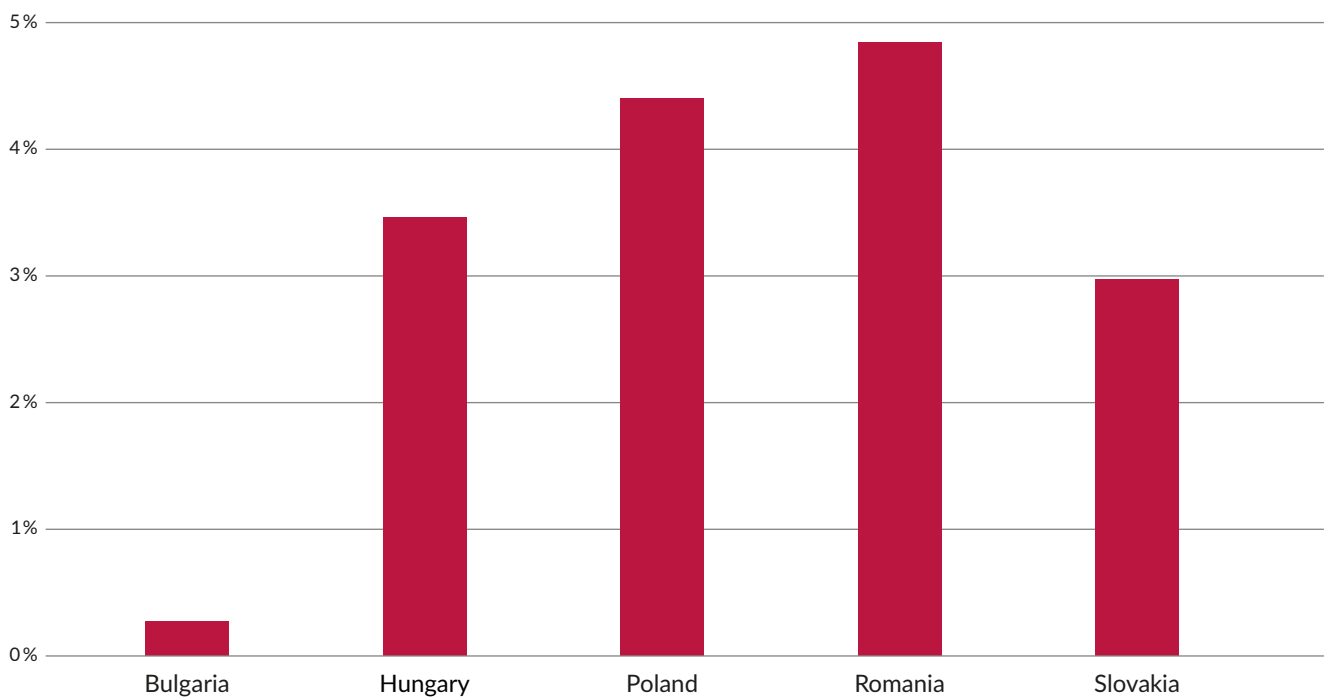
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One should note that Poland's national-security-based justification for its bans do not stand up to scrutiny, as the volume of exports from Ukraine accounted for a relatively low market share in Poland and other neighbouring countries (Figure 14). Moreover, the scope of the import bans – whether the EC regulation or the bans imposed by individual countries – went far beyond grain by even covering products that have enjoyed duty-free trade access to the EU market for

many years, such as maize, sunflower seeds and rape-seeds. As of January 2024, the bans have remained in place despite their lack of alignment with the EU-Ukraine Association Agreement (AA) or the general trade norms of the EU and WTO.

On 6 November 2023, another EU trade liberalisation measure appeared to be under attack when Polish road carriers blocked the three biggest border crossing

FIGURE 14: **Ukrainian wheat accounts for relatively low shares in the markets of its neighbouring countries**



Note: Share of the wheat imported from Ukraine in domestic wheat production in 2022, in %  
Sources: FAO, WITS; own calculations

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points with Ukraine, demanding, among other things, the reinstatement of a bilateral permit system, which was one of the trade constraints in relations with Poland and the EU before the full-scale war (Movchan, Kostiv and Polushkin 2022). These permits were abolished by another temporary EU measure, namely, the agreement with Ukraine on road transport signed in June 2022, which was originally valid for a year and then prolonged for another year (European Commission 2022b). The Polish blockade lasted until mid-January 2024, with farmers occasionally joining the truckers. Moreover, road carriers and sometimes farmers in other EU neighbours of Ukraine have also blocked the road crossing points with Ukraine for shorter periods.

This trade-related crisis has highlighted critical challenges for Ukraine's EU accession process. Ukraine's vast and growing agricultural potential has been perceived uneasily by farmers in the EU, who remain shielded by the Common Agricultural Policy. While it is generally perceived that Ukraine must become ready to withstand the common market competitive pressure, as laid down in the economic Copenhagen

Criteria, the crisis has shown that EU farmers must also be prepared to change – even though they have far fewer incentives to do so. Of course, better transit infrastructure in the EU and restoring Ukraine's full access to its seaports can help to mitigate the conflicts, though such developments will not completely resolve this tension. However, the solution could lie in the deeper integration of Ukraine's producers in EU value chains, which would make such bans economically undesirable.

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## VI. Potential areas of Ukraine's international competitiveness

For its reconstruction to be successful, for its benefits from being integrated into the EU to be maximised, and in order for it to meet the Copenhagen Criteria and accede, Ukraine needs to have an internationally competitive economy that can handle the competition of the EU and global markets. A central part of modern global competitiveness is successful integration into global value chains, which facilitates technology transfers and functional upgrading, which are the main tasks of reconstruction and EU integration.

With this in mind, the analysis of this section will focus on Ukraine's specialisation before Russia launched its full-scale invasion in 2022. We want to look at how things progressed during this period (highlighting what went well and where the weaknesses still lie), so as to define priorities to maximise the benefits of reconstruction and EU integration. Specifically, we will consider revealed comparative advantages (RCAs), participation in global value chains, and the country's progress on technological frontiers.

### VI.1. Ukraine's revealed comparative advantages

Over the last eight years, Ukraine has been drifting towards specialisations in raw materials (particularly vegetables and minerals) and intermediate goods. In doing so, it has been contributing to global value chains at the early and middle stage rather than specialising in supplying final products to consumers or producers. The reconstruction, coupled with the EU accession process, is expected to facilitate Ukraine's further integration into global value chains and technology transfers, thereby moving Ukraine's exports downstream along the value chain. Regarding aggregated product categories, Ukraine is globally competitive in vegetables, food, metals, minerals and wood products (Figure 15).

Regarding individual goods, Ukraine has the highest RCA<sup>8</sup> in sunflower seed oil. Other products with the highest RCAs include cereals and oil seeds, honey, selected ferrous metals, several critical minerals (e.g. titanium and niobium), and wood products.

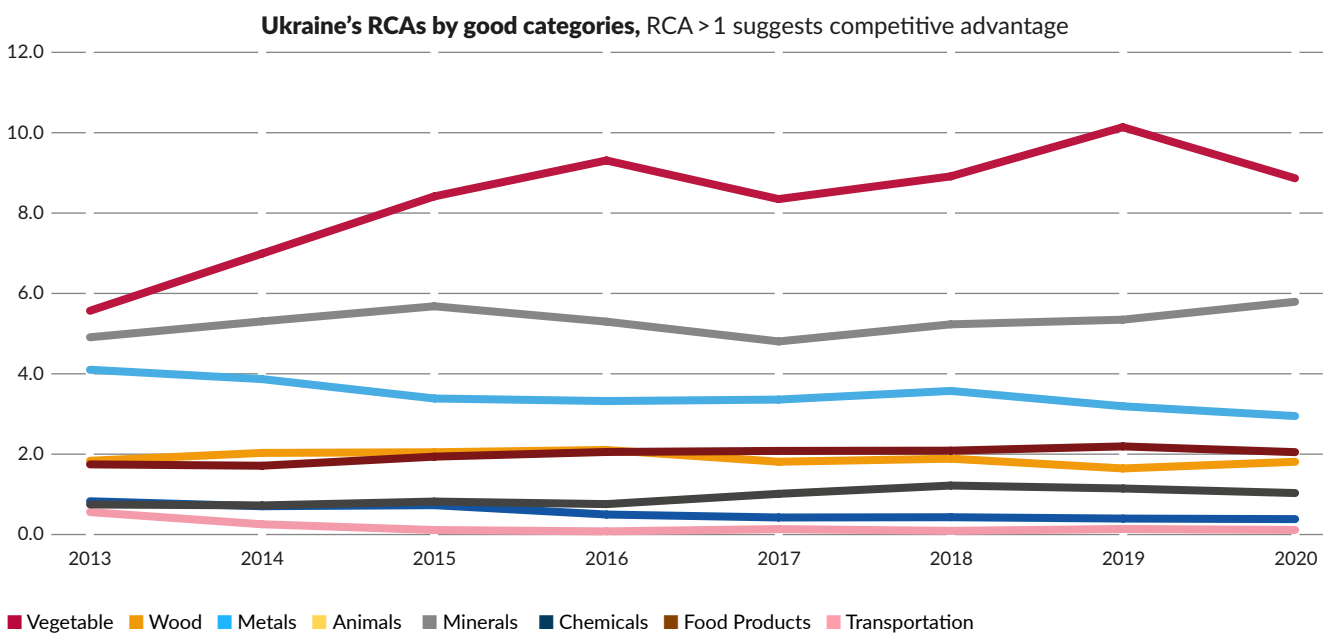
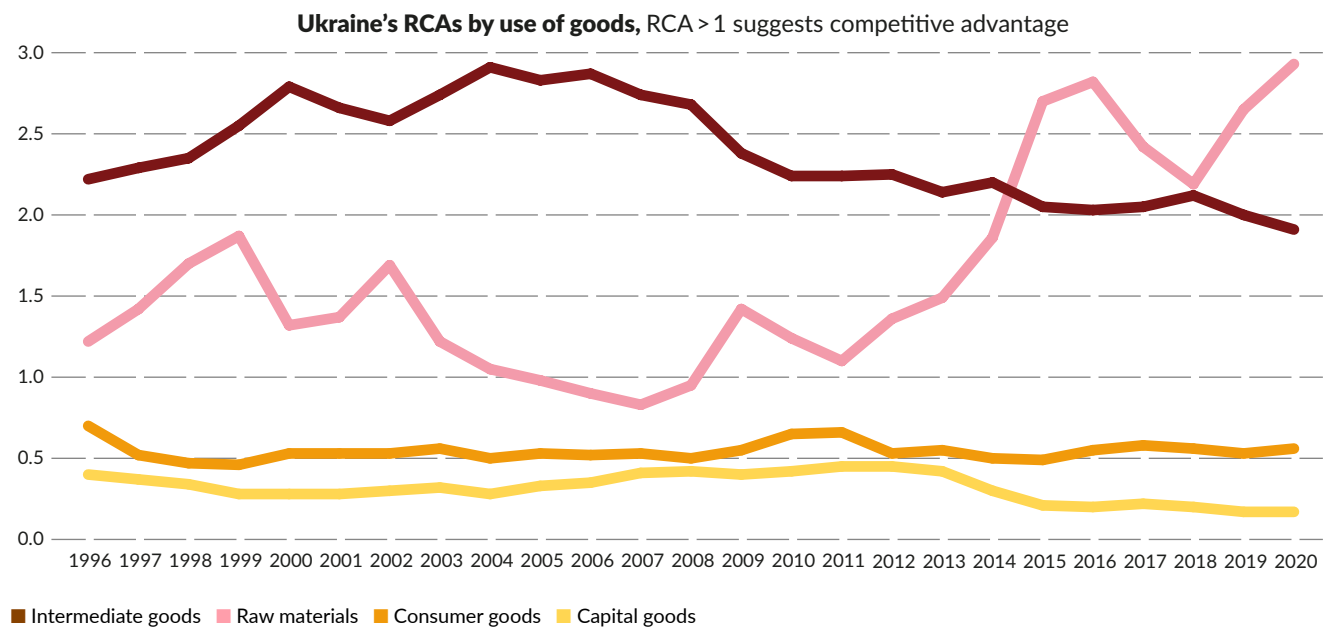
Ukraine's exports demonstrated global competitiveness in 211 out of 1,125 HS headings in 2021 (Table 1). Apart from the foodstuffs, metals and minerals discussed above, these also included railway and tram equipment and spare parts; turbojets and gas turbines; aircraft launching gear; electrical insulators; and ignition wiring sets.

In 2021, Ukraine's top export specialisation on the EU market was not significantly different from Ukraine's global specialisation (Table 2). The products with the highest RCA on the EU market included vegetable oils (sunflower seed oil, soya bean oil); semi-finished ferrous metals; cereals and oil seeds; honey; mineral products, including critical ones (clays, iron ores, titanium ores); and some wood products. Ukraine was competitive ( $RCA > 1$ ) in 198 out of 1,033 HS headings, which comprised 88 percent of Ukraine's exports to the EU in 2021. In addition to the products discussed above, Ukraine was competitive in selected photographic equipment; insulated wire and electrical insulators; railway equipment; metal-rolling mills; turbines; selected household appliances; and boats and yachts.

The full-scale war that began in February 2022 did impact Ukraine's RCA standings, but not as strongly as had initially been expected. For 2022 as a whole,

<sup>8</sup> The revealed comparative advantage (RCA) index measures a country's international competitiveness, presuming that trade patterns are governed by the countries' relative differences in productivity. Although gauging such productivity differences is challenging, an RCA based on trade data "reveals" such differences. Since RCAs do not adjust for distortions (e.g. subsidies or taxes), differences in business environments, or market failures, they cannot be treated as indicating a definite long-run comparative advantage. However, they do give an understanding of trends. The revealed comparative advantage of a country in a product in the world is measured as the ratio of product exports in the country's total exports over the same ratio for the world. For details on the specific equation, see Balassa (1965).

FIGURE 15: Pre-war Ukraine had been drifting towards a specialisation in raw materials



Note: RCA = revealed comparative advantage. RCA > 1 suggests a competitive advantage.  
Source: WITS

Ukraine retained global competitiveness in 199 out of 1,102 HS headings for global exports, while it remained competitive in 179 out of 1,038 HS headings for exports to the EU market. Moreover, the list of products making up the top RCAs has remained almost unchanged.

According to the Observatory of Economic Complexity (OEC n.d. a), Ukraine ranks 44th out of 131 countries in the Economic Complexity Index (trade), which is calculated based on countries' RCAs. This rank is

very close to the position of Türkiye (42nd), though lagging behind those of Romania (26th) and Poland (28th). Notably, Ukraine's export complexity declined between 2013 and 2021, as reflected by its drop in the ranking, from 38th to 44th place. The changes can primarily be attributed to the loss of industrial assets and technological exports to Russia after the latter occupied Crimea and a part of the Donbas in 2014. Exports of railway wagons and locomotives, which were targeted almost exclusively to the Russian mar-



TABLE 1: The 20 export goods of Ukraine with the highest RCA, world, 2021

HS 4-digit	Description	Share in Ukraine's exports, 2021, %	RCA
1512	Sunflower, safflower or cottonseed oil	9.58	138.6
7201	Pig iron and spiegeleisen in pigs, blocks or other primary forms	2.39	96.0
2614	Titanium ores and concentrates	0.24	44.6
2306	Cake and other solid waste of plant origin	1.94	42.9
7207	Semi-finished products from iron or unalloyed steel	5.90	42.8
1003	Barley	1.78	34.7
2508	Other clays, andalusite, kyanite and sillimanite, whether or not calcined; mullite; chamotte or dinas earths	0.44	34.6
1005	Corn	8.89	32.5
1001	Wheat and meslin	7.17	28.3
4906	Plans and drawings that are originals made by hand	0.01	28.0
1205	Rape or colza seeds, whether or not broken	2.06	26.8
2706	Tar distilled from coal, from lignite or from peat and other mineral tars	0.09	23.9
4408	Sheets for veneering (including those obtained by slicing laminated wood)	0.42	20.5
4405	Wood wool (excelsior); wood flour	0.01	18.6
4402	Wood charcoal (including shell or nut charcoal), whether or not agglomerated	0.11	17.1
7208	Flat-rolled iron/non-alloy steel	5.22	16.1
0409	Honey, natural	0.22	15.1
2615	Niobium, tantalum, vanadium or zirconium ores	0.06	14.9
2302	Bran, fodder flour and other by-products of grain or leguminous crops processing	0.14	14.8

Source: WITS

TABLE 2: The 20 export goods of Ukraine with the highest RCA, the EU, 2021

HS 4-digit	Description	Share in Ukraine's exports, 2021, %	RCA
1512	Sunflower seed, safflower or cottonseed oil	7.22	76.6
7201	Pig iron and spiegeleisen in pigs, blocks or other primary forms	1.71	70.1
7207	Semi-finished products from iron or unalloyed steel	6.27	47.5
2508	Other clays, andalusite, kyanite and sillimanite, whether or not calcined; mullite; chamotte or dinas earths	0.78	44.0
1005	Corn	6.77	43.6
2601	Iron ores and concentrates, including roasted iron	11.19	42.2
4402	Wood charcoal (including shell or nut charcoal), whether or not agglomerated	0.27	37.7
1507	Soya-bean oil and its fractions	0.86	34.5
4408	Sheets for veneering (including those obtained by slicing laminated wood)	0.91	33.5
1205	Rape or colza seeds, whether or not broken	3.79	30.5
4405	Wood wool (excelsior); wood flour	0.02	29.0
0409	Honey, natural	0.49	25.5
2706	Tar distilled from coal, from lignite or from peat and other mineral tars	0.21	24.7
0501	Human hair unworked	0.00	24.5
2614	Titanium ores and concentrates	0.15	24.4
2306	Oil cake and other solid residues; whether or not ground or in the form of pellets	1.28	23.0
1404	Vegetable products not elsewhere specified	0.07	21.3
3501	Casein, caseinates and other casein derivatives	0.15	13.9
0811	Fruit and nuts; uncooked or cooked by steaming	0.70	13.6

Source: WITS

ket as a part of the post-Soviet legacy, have practically ceased. At the same time, exports of gas turbines, another legacy product, have been sharply reduced.

In summary, at present, Ukraine's top competitive advantages are concentrated in agricultural products, mineral products and metals. These products are highly sensitive to trade defence measures, including in the EU, as has been vividly demonstrated by the ongoing bans on selected Ukrainian agricultural products in Poland, Hungary and Slovakia.

While Ukraine's strong competitive edge in agriculture remains crucial for global food security – and could even elevate an enlarged EU into the role of the new global food supplier – the country's accession to the EU will require it to regain, strengthen and/or expand its competitive advantage in technologically advanced sectors, especially taking into account that Ukraine still has a high level of economic complexity and is competitive in technologically advanced products, ranging from turbines and railway equipment to yachts. Thus, Ukraine's real and potential technological strengths should number among the critical priorities for reconstruction so as to ensure that the country can effectively withstand the competitive pressure of the common market and be successful in cohesion efforts.

## VI.2. Global value chain integration

Ukraine's deep integration into global value chains (GVCs)<sup>9</sup> has been considered a central part of its

<sup>9</sup> Value chains, the production of products in multiple countries, have become essential in global trade. Global value chains are assessed using multi-country input-output tables (MC IOTs), which allow researchers to track which country's or countries' value is added and thereby "contained" in the gross export flows. One such MC IOT is the Eora database ([https://unctad.org/system/files/official-document/diaeia2019d3a5\\_en.pdf](https://unctad.org/system/files/official-document/diaeia2019d3a5_en.pdf) and <https://worldmrio.com/unctadgvc/>), which comprises 190 countries and publishes data on global value chain integration on a national and bilateral levels. On the national level, we can compute the following indicators: DVA: domestic value-added content of exports | FVA: foreign value-added content of exports | DVX: indirect value-added exports, domestic value added contained in value-added exports of other countries | GVA: global value chain integration indicator, computed as the sum of FVA and DVX | FVA and DVX are also known as backward and forward linkages, respectively. Backward linkages quantify the degree to which foreign value added is used in domestic production (thus an indicator of upstream integration). Forward linkages tell us how much value added that is produced domestically is then "contained" in the exports of another country (i.e. is exported as an intermediate input), which makes it an indicator of downstream integration. GVA, the sum of backward and forward linkages, is thus an indicator of the degree of overall integration into global value chains.

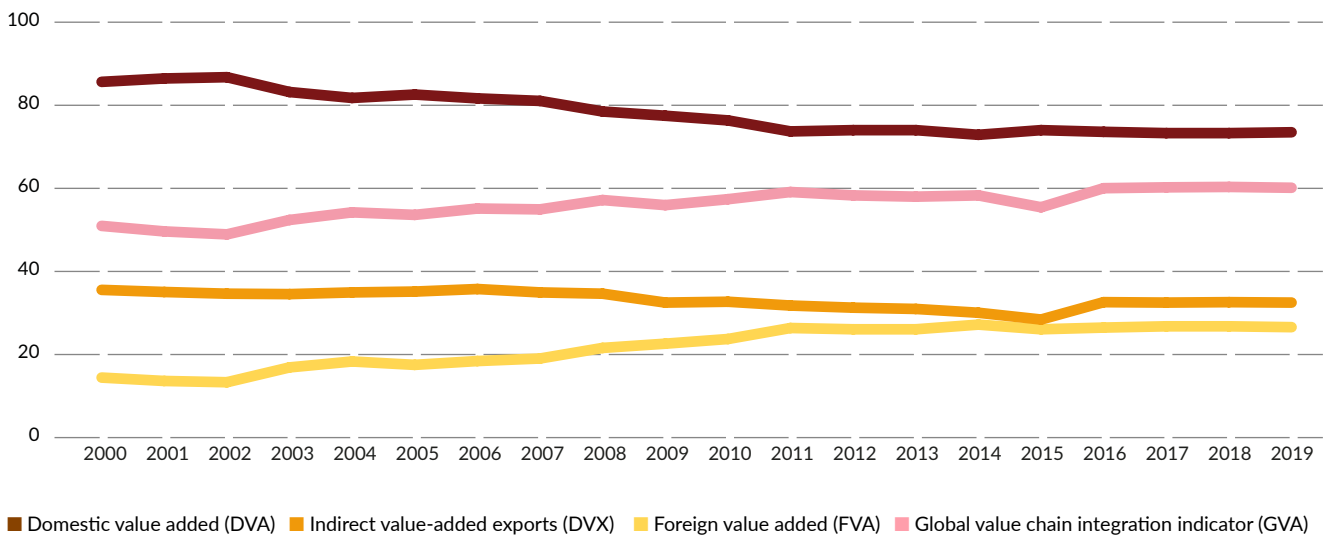
efforts to successfully reconstruct and prepare itself to join the EU. In addition to enabling Ukraine to stabilise its trade flows and fostering technological transfers, these efforts can help to mitigate protectionist sentiments towards Ukraine regarding its accession to the EU.

Between 2000 and 2019, Ukraine's value chain integration grew nine percentage points, to 60 percent (Figure 16). This increase was driven by backward linkages, which increased by 12 percentage points, which reflects the changes in the commodity structure of the country's merchandise exports. The domestic content of value-added exports has decreased from 85 percent to 73 percent. Notably, the increase mostly took place before 2012 and, since then, Ukraine's integration into GVCs appears to have stalled. This can be seen as an indication that Ukraine has much potential for further integration into global supply chains.

Compared to its regional peers, Ukraine remains relatively little integrated into GVCs (Figure 17). Only Azerbaijan, Georgia, Russia and Armenia had lower values for the global value chain integration indicator (GVA) in 2019. At the same time, Slovakia and Hungary outperformed Ukraine in this respect by more than 20 percentage points.

This points to a potential for Ukraine's increased integration into global production chains in the post-war period, especially given the recent friend- and near-shoring trends as well as Ukraine's largely untapped potential in green energy and critical minerals resources. To a certain degree, Ukraine is also expected to repeat the experience of the Central and East European countries that attracted investors before and after their accession, when domestic wages remained considerably lower than the EU average. At the same time, the regulatory environments and access to the EU market had already improved significantly.

FIGURE 16: Ukraine's growth in value chain integration was driven by backward linkages

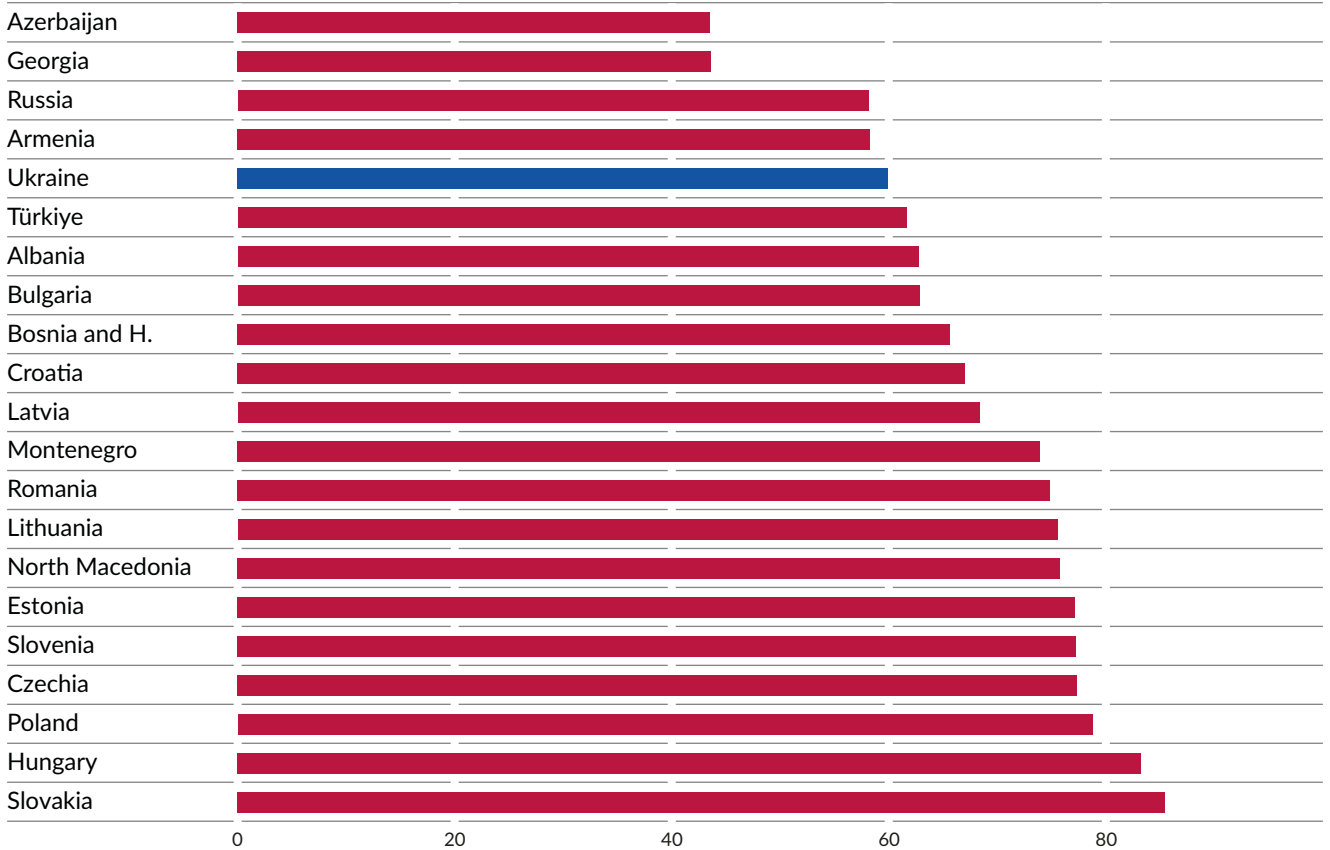


Note: Value chain integration indicators of Ukraine.

Source: UNCTAD-EORA Global Value Chain Database, wiiw elaboration

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FIGURE 17: Ukraine remains relatively little integrated into global value chains compared to its peers



Note: Global value chain integration indicator (GVA) in 2019.

Source: UNCTAD-EORA Global Value Chain Database, wiiw elaboration

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## VI.3. Frontier technologies

Ukraine has a strong comparative advantage in ICT-related sectors, which can be further developed in the post-war period. The country has achieved remarkable progress in terms of exporting digitally delivered services, the share of which in exports was the highest in the CESEE region in 2021, lagging slightly behind the level of the EU average (Figure 18). In the eight years between 2013 and 2021, the share of digitally delivered services in services exports more than doubled, from 25 percent to 56 percent.

Ukraine is quite technologically developed for a non-EU member state. In fact, according to the “frontier technology readiness index” (FTRI)<sup>10</sup> developed by UNCTAD, it has better preparedness than many of its peers in the Western Balkans and the CIS (Figure 19).

However, the digitalisation of Ukraine's economy is not uniform, and there are many areas where there is still a need for technological modernisation (a field in which the country still lags far behind many of the countries in Central Europe). Ukraine has performed rather heterogeneously in different components of the FTRI<sup>11</sup> (Figure 20). The country made significant progress in its efforts to advance its ICT deployment, thereby boosting its value in the index by 0.44 points during the 2008-2019 period. Industry activity also somewhat improved during this period, with its value in the index rising by 0.06 points. There was, however, a reverse trend in the case of access to finance, where the value in the index deteriorated quite significantly, by 0.22 points. Although Ukraine still has a relatively strong position among its CESEE peers when it comes to skills and R&D (holding 11th and 7th place, respec-

tively, out of 26 countries), its competitiveness in these areas has been declining over the last 11 years.

Zooming in on ICT deployment in Ukraine reveals that the country has a very high penetration of internet use among businesses, which was 87 percent in 2021, or up 11 percentage points compared with 2010 (Figure 21). The share of companies using the internet by fixed broadband access has grown quickly. However, it is still relatively low compared to the country's peers (62 percent in Ukraine vs 89 percent in Belarus and 83 percent in North Macedonia). At the same time, only 35 percent of Ukraine's businesses had a web presence in 2021, and only 28 percent of employed people used the internet routinely – in contrast to between 60 percent and 70 percent in Croatia, Lithuania, Poland, Slovakia, Slovenia and elsewhere.

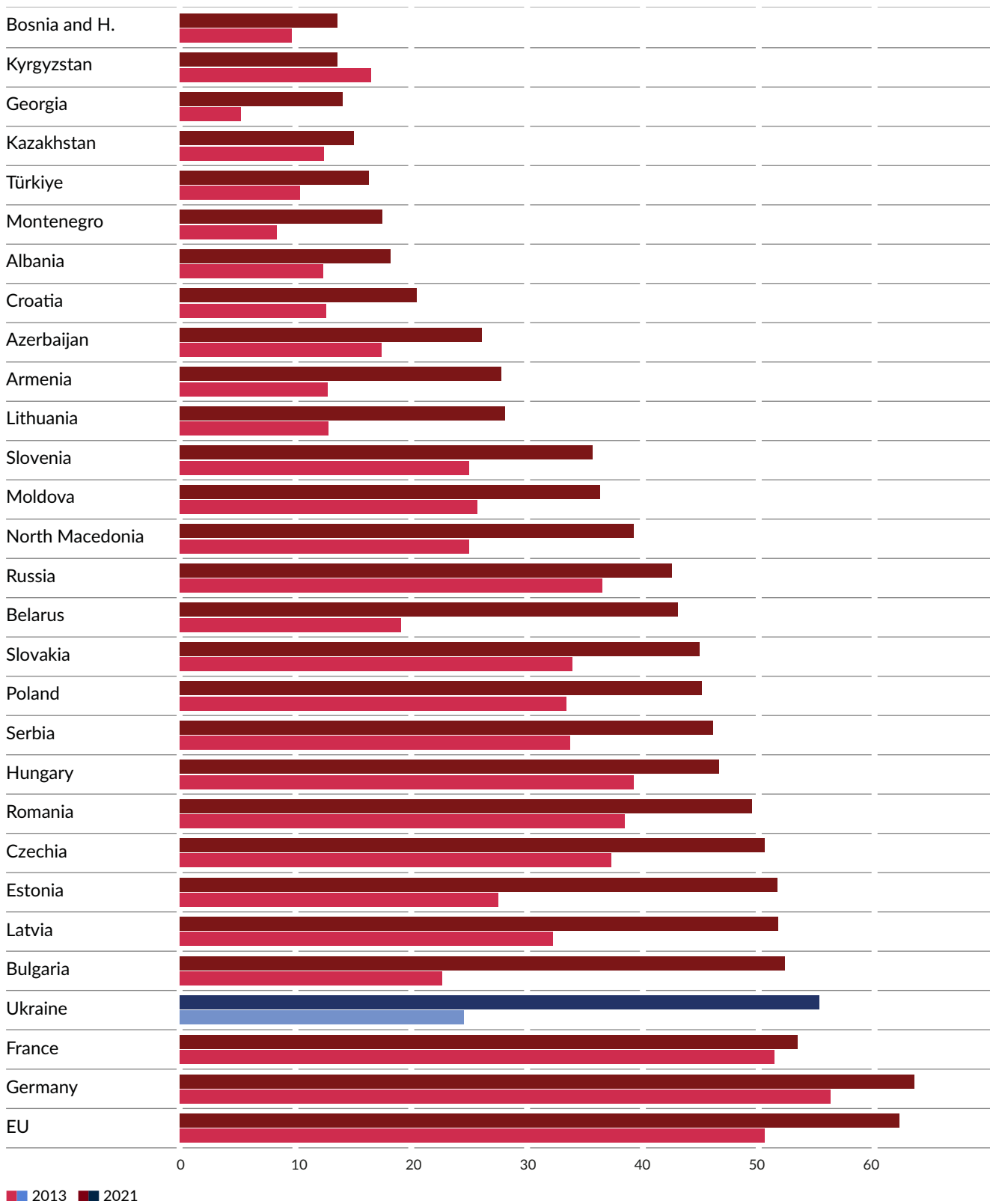
E-commerce is underdeveloped in Ukraine, especially among small enterprises, of which only 4 percent received online orders in 2021 (Figure 22). The country also performed significantly worse than its peers in the development of e-commerce. For example, about 27 percent of small enterprises in Serbia were engaged in e-commerce in 2021, while the figure for Poland was 16 percent. Large and medium enterprises in Ukraine also lagged far behind their peers in other countries when it comes to engaging in e-commerce. In Ukraine, only 11 percent of large enterprises used e-commerce in 2021, whereas this figure was 56 percent for Estonia, to cite one example.

Thus, Ukraine appears to have an enormous potential for catching up with the countries in the West when it comes to ICT infrastructure development and the prevalence of internet use, which could provide a productivity boost in the post-war period. The progress is expected to be fostered by Ukraine's integration into the EU Digital Single Market, which both parties (i.e. the EU and Ukraine) have already recognised as being a goal. The first roadmap for Ukraine's integration into the EU Digital Single Market was drafted in 2018 and updated in 2020, but it has yet to be officially adopted (gov.ua 2020). Development of a competitive IT sector will foster technological diffusion into other sectors of Ukraine's economy and will facilitate a boost in the technological complexity of the country's industry.

10 The “frontier technology readiness index” (FTRI) can take values between zero and one, with values closer to one indicating that a country is ready to adopt and use frontier technologies.

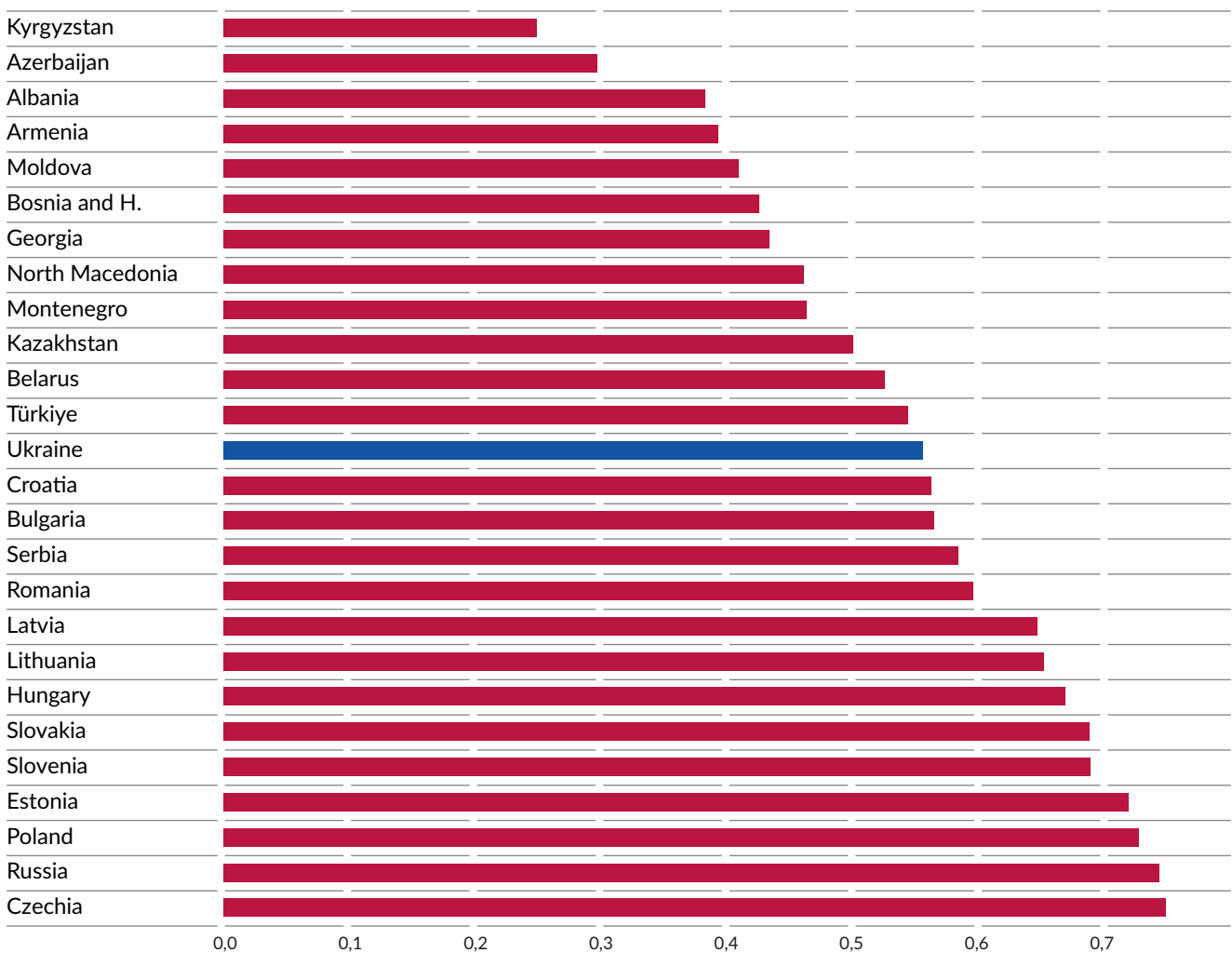
11 The index consists of five building blocks that measure the capacity to use, adopt and adapt frontier technologies: ICT deployment: This measures both the prevalence of internet infrastructure (internet users as a share of the population) and the quality of internet connections (mean download speed measures). | Skills: These include skills acquired through education (expected years of schooling) and skills acquired in the workplace through practical training or learning-by-doing (the sum of managers, professionals, technicians and associate professionals following the International Standard Classification of Occupations). | R&D activity: This is measured using the number of publications and patents filed for the 11 frontier technologies in a country. | Industry activity: This aims to capture ongoing activities in an industry related to the use, adoption and adaption of frontier technologies (measured by exports of high-tech manufacturers and digitally deliverable services). | Access to finance: This measures resources provided by financial corporations, such as finance and leasing companies, money lenders, insurance corporations, pension funds and foreign exchange companies (share of domestic credit to the private sector in GDP).

FIGURE 18: **Ukraine's share of digitally delivered services in total services exports was the highest in the CESEE region in 2021**



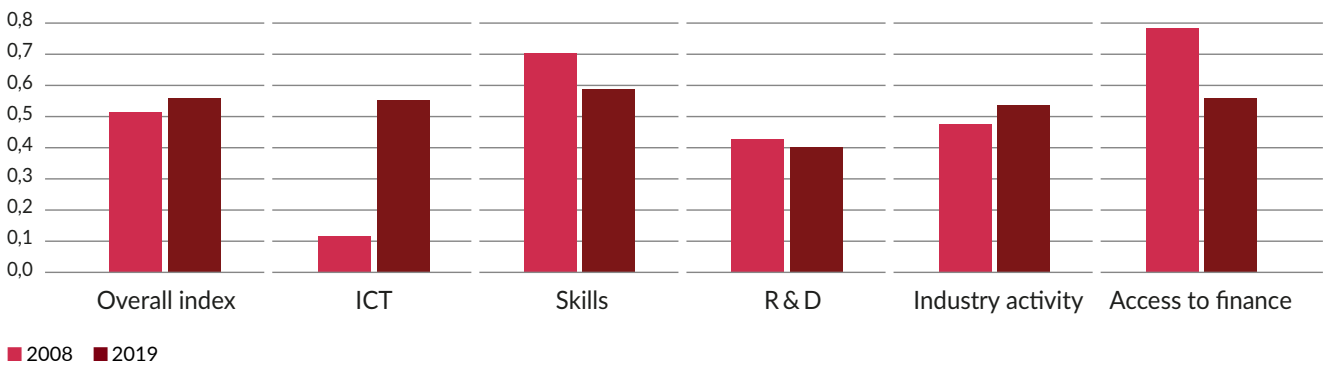
Note: Digitally delivered services as a share of total services exports, in %.  
Source: UNCTAD

FIGURE 19: **Ukraine is quite technologically developed compared to its non-EU peers**



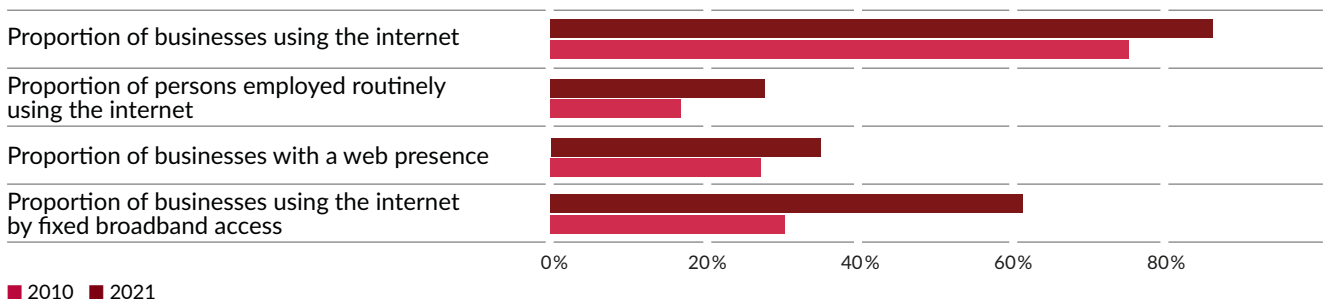
Note: Values of Ukraine and its regional peers in the “frontier technology readiness index” (FTRI), 2019.  
Source: UNCTAD

FIGURE 20: **Ukraine made significant progress in advancing its ICT deployment, but it has been losing its competitiveness in skills and R&D**



Note: Ukraine’s “frontier technology readiness index” (FTRI) values for the various components of the index, 2008 and 2019.  
Source: UNCTAD

FIGURE 21: **Only 35 percent of Ukrainian businesses had a web presence in 2021**

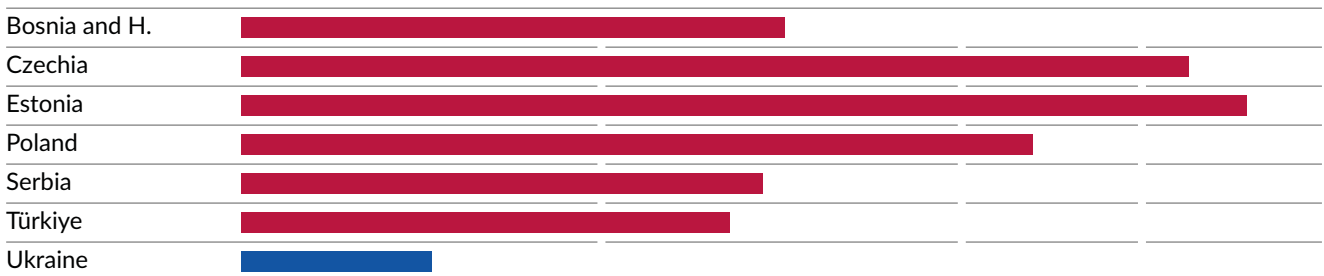


Note: Use of ICT in business in 2010 and 2021, shares in %.  
Source: UNCTAD

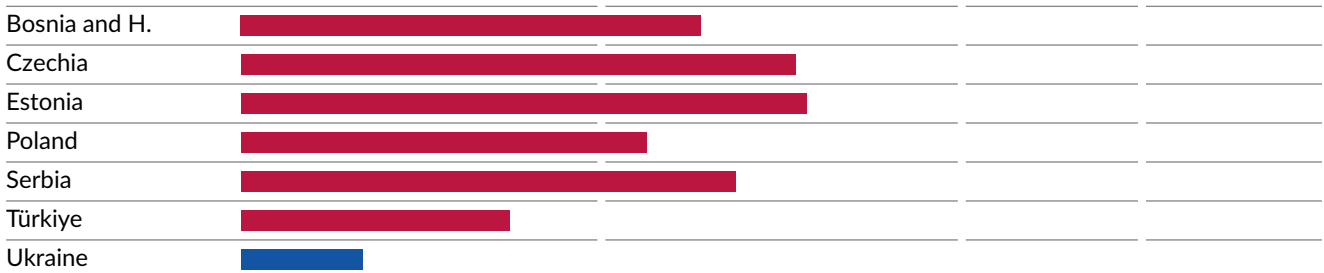
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FIGURE 22: **E-commerce is underdeveloped in Ukraine, especially among small enterprises**

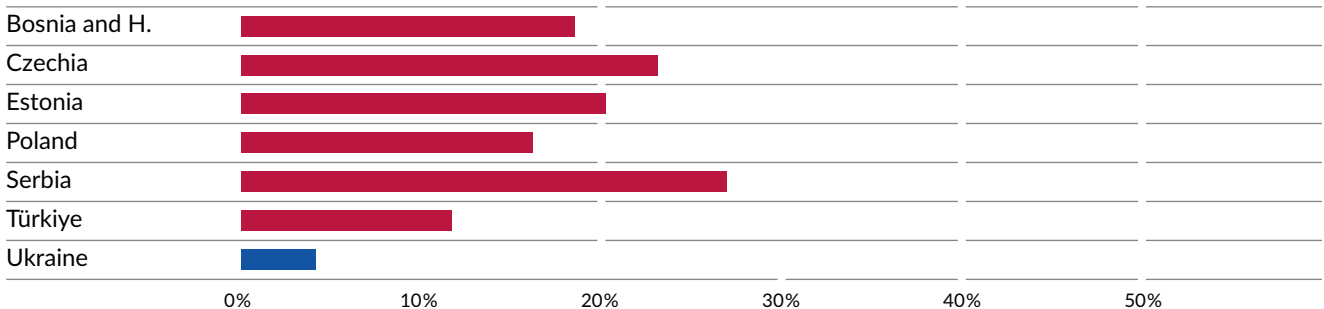
**Large enterprises (+250 employees)**



**Medium enterprises (50–249 employees)**



**Small enterprises (10–49 employees)**



Note: The proportion of businesses using e-commerce in Ukraine and selected peer countries in 2021, in %. E-commerce is defined in this case as receiving orders via the internet.  
Source: UNCTAD

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## VII. Foreign direct investment: challenges and opportunities

Attracting foreign direct investment (FDI) will be crucial for Ukraine's success. These private funds are expected to play a vital role in reconstruction, as they are more flexible and diversified. In addition, they will bring technologies and help to forge business links, which in turn will foster swifter integration into the EU and the global economy.

Before the full-scale war, the FDI inflows into Ukraine had been very volatile and limited compared to the inflows into its neighbours (Figure 23). The most significant FDI inflows were registered before the 2009 global financial crisis, whereas Ukraine's FDI inflows were close to zero or even negative in the 2014-2015 period as well as in 2020. Furthermore, Ukraine has attracted one of Europe's lowest FDI stocks per capita. The per capital stock is four times lower than it is in Romania and five times lower than in Poland, both of which experienced strong FDI inflows in the mid-2000s thanks to EU accession and the second wave of steady expansion since the mid-2010s.

The structure of the FDI inward stock has changed over the last decade (Figure 24). In the 2000s, the principal sectors attracting FDI were financial services (primarily banking) and metal manufacturing. The latter included the country's largest case of open privatisation with foreign participation, namely, the re-privatisation of Kryvorizhstal in Kryvyi Rih in Dnipropetrovsk Oblast – Ukraine's largest integrated steel company, known for its considerable production capacity and importance in the region's industrial infrastructure – to global steelmaking giant ArcelorMittal in 2005. However, there has not been any other substantial foreign investment in Ukraine's steel industry, and many foreign banks left the country in the 2010s, which diluted the shares of these two sectors in the FDI stock. Since 2021, the wholesale and retail trade as well as the extractive industries have been the most significant FDI stock sectors. At the same time, these sectors are not the leaders in terms of the share of

foreign ownership in the market structure. According to Movchan et al. (2020), the sectors with the highest share of foreign ownership are fixed and mobile telecommunications (93 percent), in which three out of five significant operators are foreign-owned;<sup>12</sup> the manufacture of man-made fibres (66 percent); the processing and preserving of fruits and vegetables (62 percent); the manufacture of other food products, beverages and tobacco products (52 percent); and the manufacture of glass and glass products (52 percent).

EU member states are the most prominent investors in Ukraine, followed by Switzerland and the UK (Figure 25). However, the official statistics have been somewhat misleading, as the top investors – Cyprus, the Netherlands and Switzerland – are known for offering financial vehicles for investors from other jurisdictions. According to the National Bank of Ukraine, these three countries and Austria routed the most round-tripping investments with Ukrainian funds.<sup>13</sup> Between 2010 and 2022, the round-tripping FDI amounted to €9 billion,<sup>14</sup> representing 24 percent of direct investment inflow.

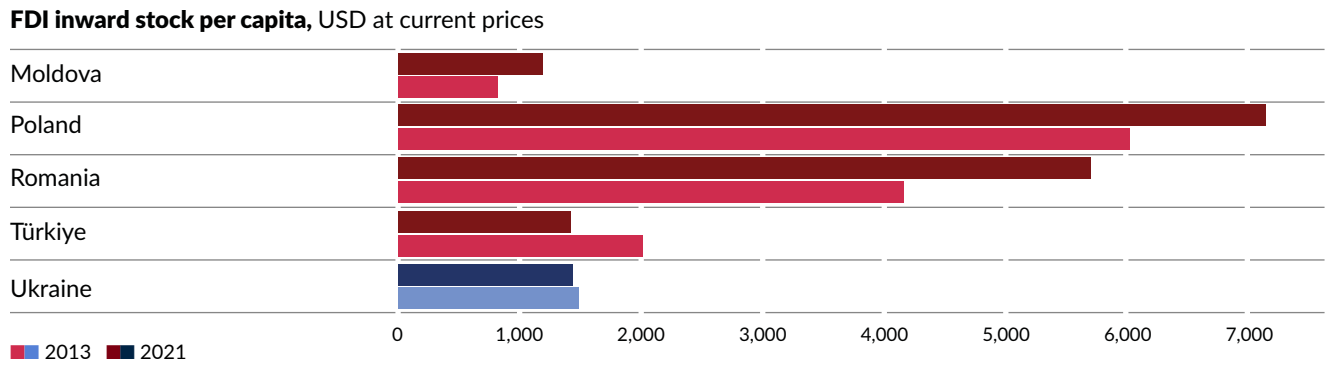
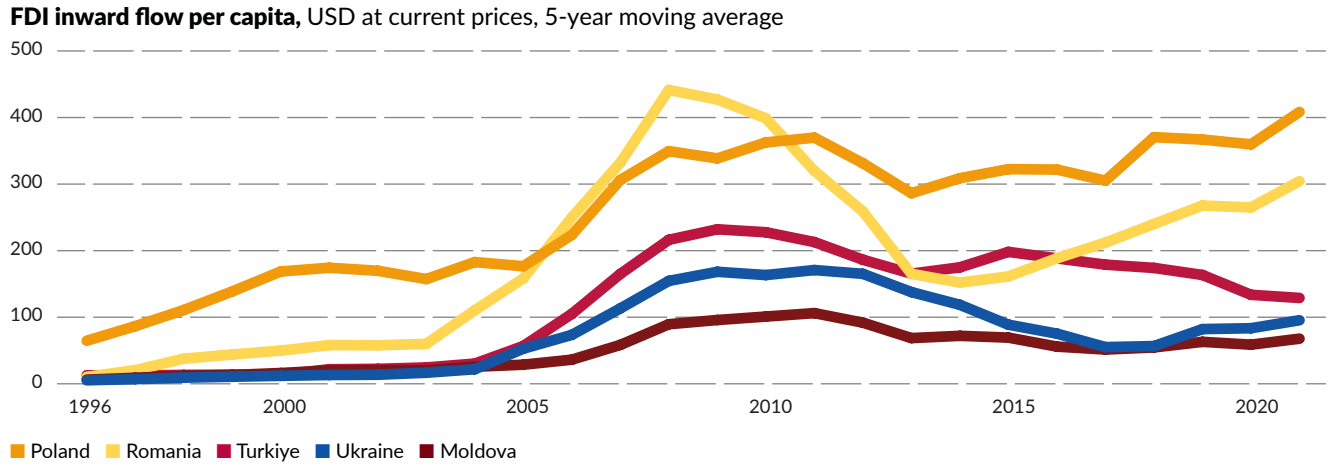
12 Kyivstar JSC, Ukraine's leading telecommunications company, belongs to the Dutch VEON Holdings B.V., which in turn partly belongs to the Russian Alfa Group (Market Screener 2024). In October 2023, Ukraine's court seized 7.85 percent of the shares of Kyivstar, as they belonged to the sanctioned Russian businessman Mikhail Fridman and his partners (Pylypov 2023). By the same decision, Ukraine's court seized 19.8 percent of lifecell, as it was also affiliated with Mikhail Fridman. Until late 2023, the main shareholders of lifecell were Turks. In December 2023, they sold the company to French NJJ Capital (Masiuk 2023). However, this deal has yet to be confirmed by the Antimonopoly Committee of Ukraine. Vodafone belongs to Azerbaijani owners. For both Vodafone and lifecell, the parent companies are registered in the Netherlands.

13 Round-tripping transactions refer to residents' channelling abroad of local funds and the subsequent return of these funds to the local economy in the form of direct investment. The high share of round-tripping in Ukraine's inward FDI means that some investments registered as FDI are actually funds originating in Ukraine. Round-tripping can increase property rights protection, ensure better exchange-rate risk management, and provide access to better financial services. However, it can also be used to hide profits and avoid taxation (NBU 2024).

14 Using the exchange rate for 2022.



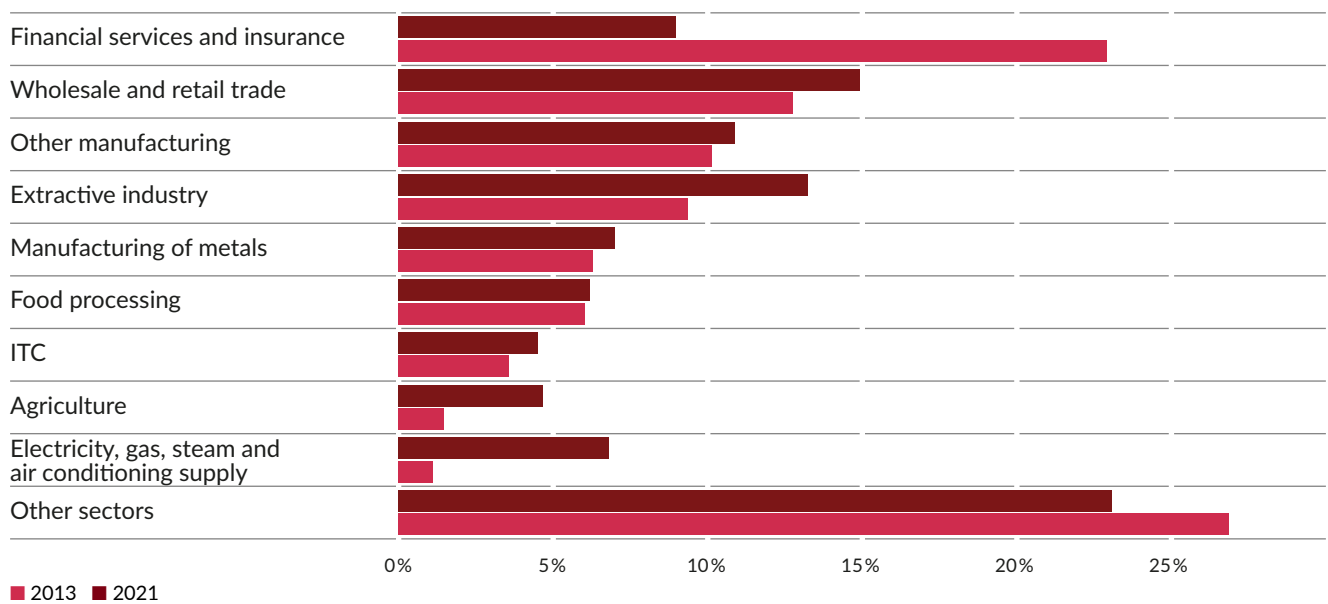
FIGURE 23: Ukraine’s FDI inflows have been volatile and low compared to its regional peers



Source: UNCTAD

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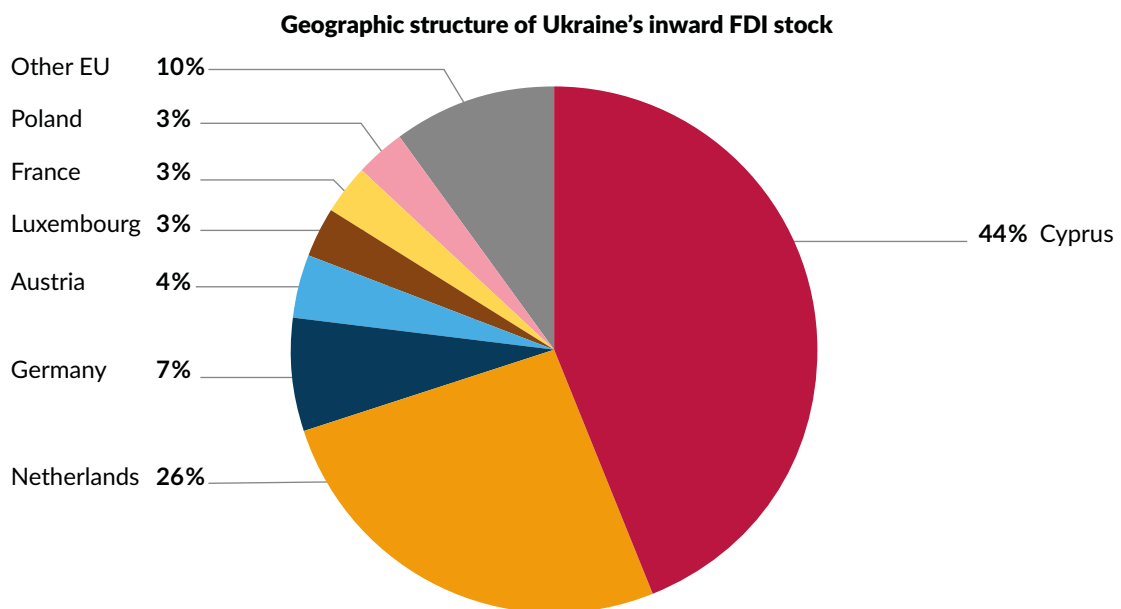
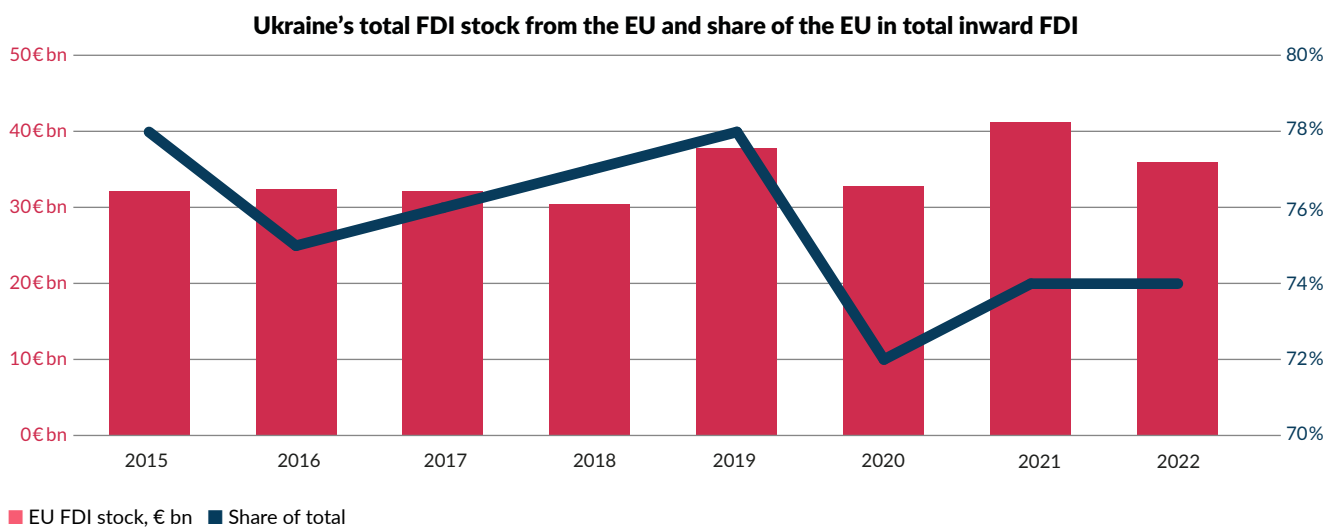
FIGURE 24: Ukraine’s FDI inward stock structure changed noticeably between 2013 and 2021



Sources: UNCTAD, National Bank of Ukraine

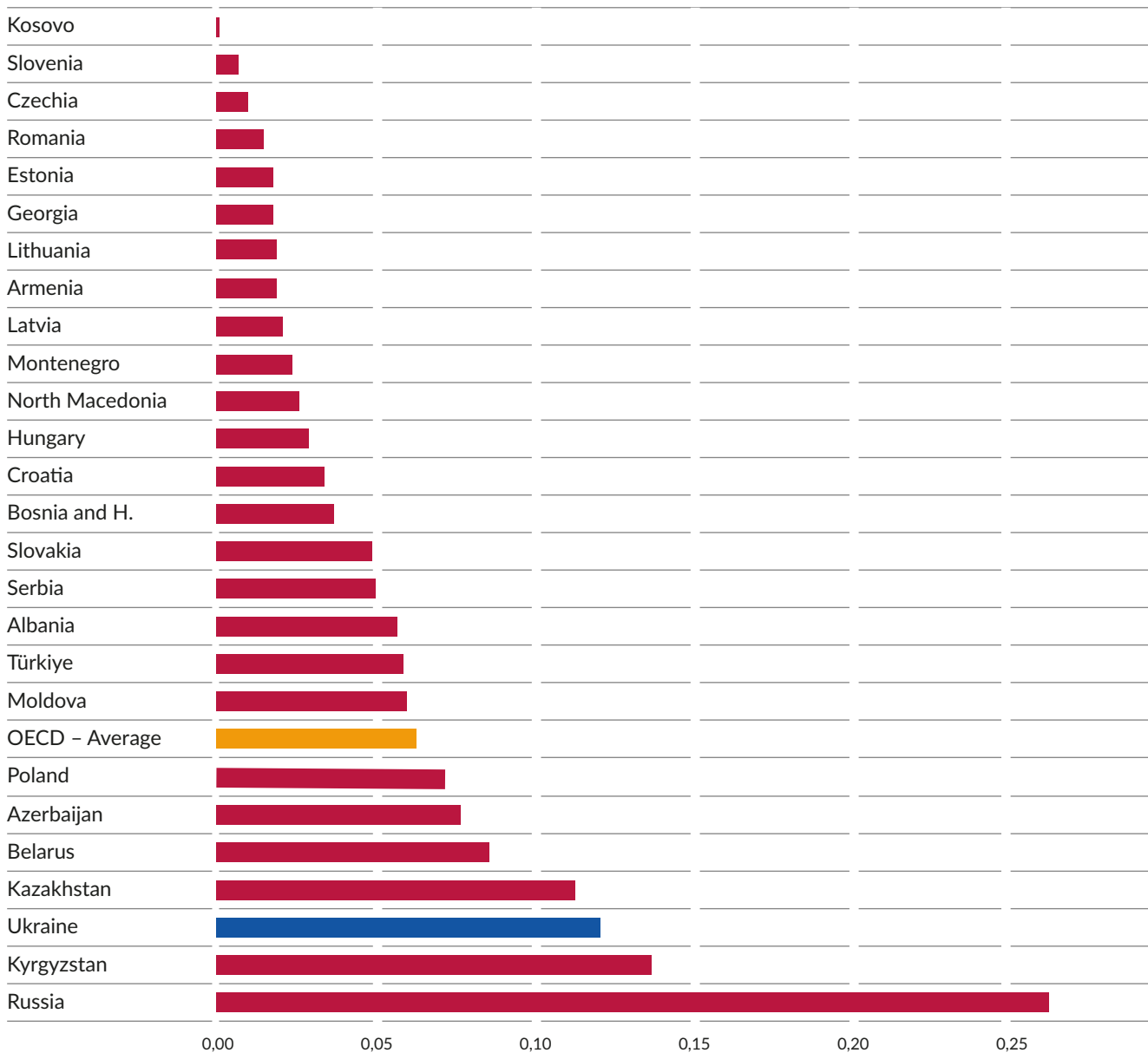
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FIGURE 25: The EU is the largest source of FDI for Ukraine



Source: National Bank of Ukraine

FIGURE 26: **Ukraine's foreign investment policy regime remains less liberalised than in many of its regional peers**



Note: Index of overall FDI restrictiveness in Ukraine and its peers in 2020.  
Indices take values from zero to one, with one indicating the highest barriers to FDI.  
Source: OECD

Although Ukraine has significantly liberalised its foreign investment policy regime, in 2020, it remained less liberal than many of its regional peers (Figure 26). The value of the overall FDI restrictiveness index in Ukraine stood at 0.121, which is double the average level for Organisation for Economic Co-operation and Development (OECD) countries. In the region, only Kyrgyzstan and Russia had higher values in the overall FDI restrictiveness index.

The somewhat high level of the index is driven by the remaining high barriers to foreign investment in several sectors of the economy, including maritime and air transport, media and agriculture (Figure 27). Between 2013 and 2020, there was only a marginal degree of liberalisation in these sectors. Thus, removing these barriers could be an additional tool for attracting FDI in the future.

Notably, substantial changes were already seen in the 2021-2023 period. For example, in October 2021, Ukraine and the EU signed the long-awaited Common Aviation Area (CAA) Agreement (gov.ua 2021), envisaging the mutual opening of markets for air transport and related services. The legal alignment embedded in the agreement has been gradually progressing, for example, with the approval of the Action Plan in 2022. However, Ukraine will only be able to tap the CAA opportunities after its air space has become secure again and reopened for civil aviation.

In the media sector, which also has a high level of FDI restrictiveness, the new law aligning the sector's regulations with the EU *acquis* was adopted in 2022 (Parliament of Ukraine 2022). In addition to aiming for higher transparency of the ownership structure and empowered regulator, the new framework for all audio-visual services imposes quotas on the use of national and European products, which incentivises investment in their production.

In agriculture, the major reform – namely, the abolishment of a moratorium on agricultural land sales – was adopted in 2020 and entered into force in July 2021 (Parliament of Ukraine 2020). Given the high political sensitivity of the issue, a very gradual reform path was envisaged, with significant limitations on the size of land plots that could be accumulated by new owners and a three-year transition period before legal entities were allowed to purchase land. The ownership of

agricultural land by foreigners remained prohibited, but the land could be leased to foreign owners. The functioning land market is expected to foster investments, including FDI.

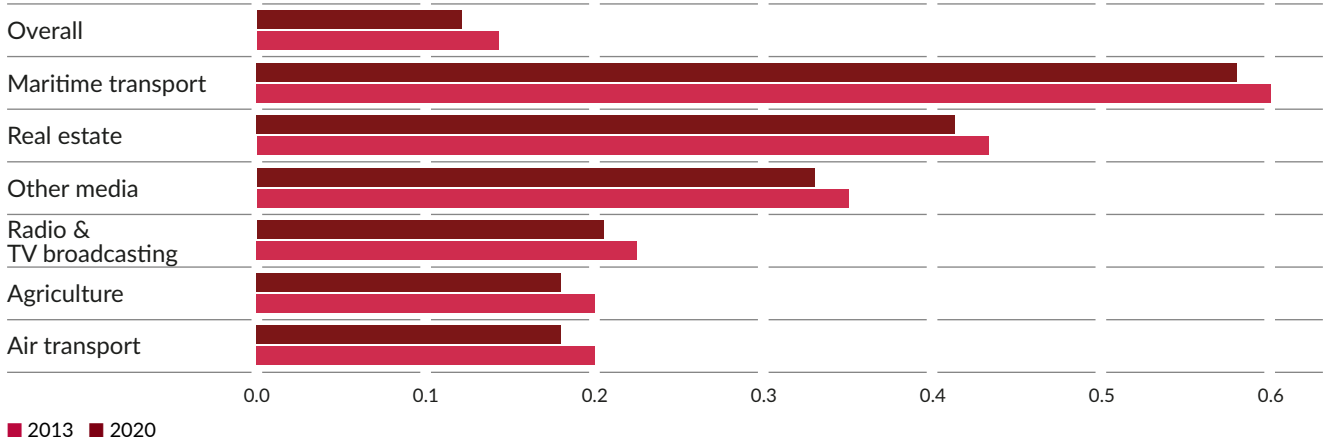
At the same time, no major reforms were implemented in the maritime transport sector, which was identified as the sector with the highest level of FDI restrictions by the OECD. According to the 2023 EU Enlargement Report (European Commission 2023a), the legislation on the sector still needs to be aligned with the EU *acquis* and international conventions. This sector is among few service sectors in the AA/DCFTA offering internal market treatment; in other words, when operating in the EU market, Ukrainian companies are treated in the same way as EU companies. However, in order to be able to benefit from the internal market treatment, Ukraine needs to carry through with intensive reforms.

In 2019 and 2021, Ukraine adopted several important laws aiming to stimulate FDI, including the law on concessions aiming to strengthen protection of creditors' rights (CMS 2020); the law on state support for investment projects with significant investments in Ukraine (known as the law on "investment nannies"), which includes state guarantees on stable legislation and tax exemptions, among other benefits (UkraineInvest 2024a); and the amendments to the law on industrial parts, featuring additional tax-related and infrastructural incentives (UkraineInvest 2024b).

However, according to business surveys,<sup>15</sup> the significant backlog of FDI attraction is not sectoral regulations, but rather the protection of property rights and of the rule of law (Movchan and Rogoff 2022). This has been confirmed by Heritage Foundation indexes showing that Ukraine lags behind its peers in terms of protecting property rights and judicial effectiveness (Figure 28).

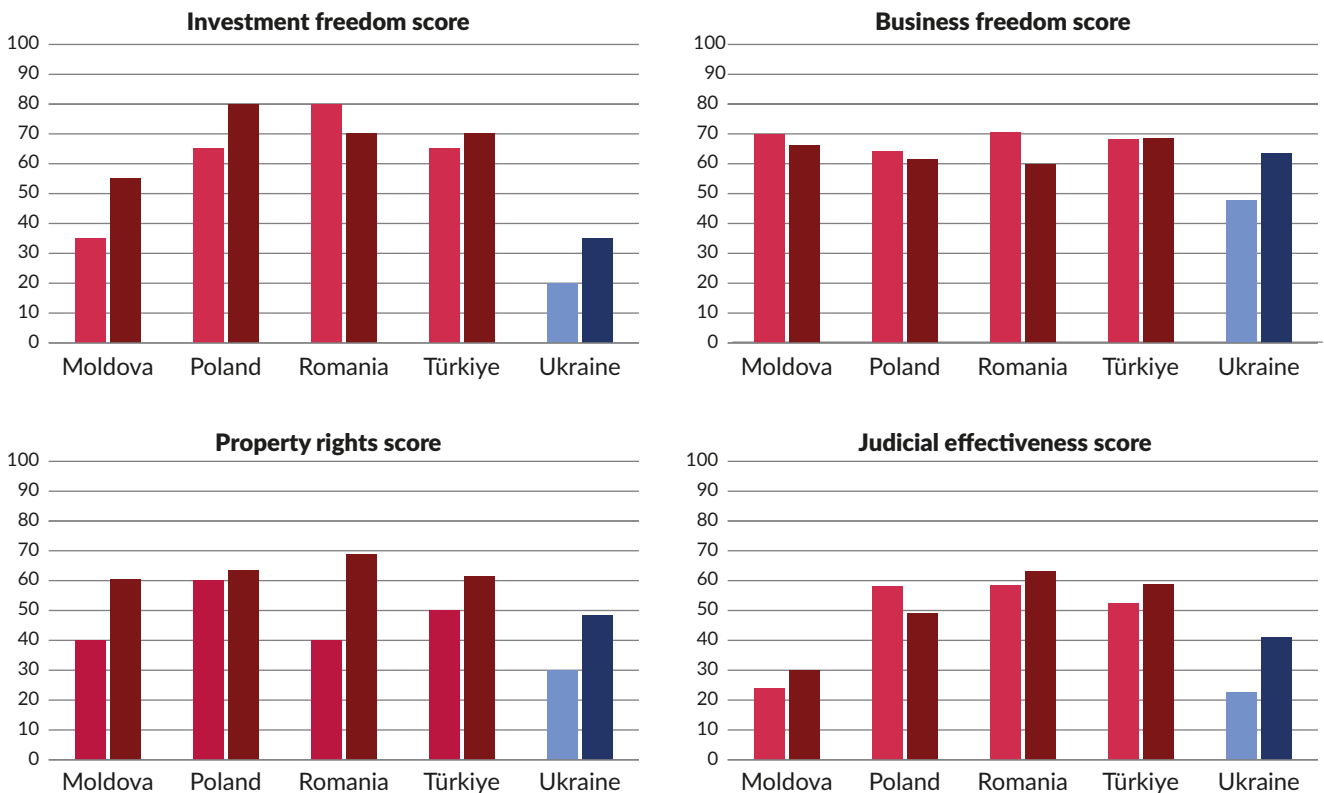
<sup>15</sup> According to the American Chamber of Commerce in Ukraine, in September 2021, "93 percent of businesses stated that implementation of real and effective judicial reform, rule of law, fair justice, and eradication of corruption is [the] #1 strategic step Ukraine's Government should take first to achieve economic growth, improve the business climate, and attract Foreign Direct Investment" (ACC 2021). In December 2021, the European Business Association (EBA) survey showed that a weak judicial system (87 percent of CEOs participating in the survey), a high level of corruption (85 percent), and the shadow economy (76 percent) remain the top barriers to the development of business (EBA 2021). It is also worth noting that the situation has not changed much with the war. According to the EBA Investment Index dated December 2023, companies rank corruption and the weak judicial system as the second- and third-biggest challenges for investments, with the war being the biggest (EBA 2023).

FIGURE 27: The high level of the FDI restrictiveness index is driven by the remaining high barriers to investment in several sectors of the Ukrainian economy



Note: Index of FDI restrictiveness in selected sectors of Ukraine's economy in 2013 and 2020. Indices take values from zero to one, with one indicating the highest barriers to FDI. Source: OECD

FIGURE 28: Despite significant progress, Ukraine lags behind its peers in terms of investment freedom, business freedom, property rights protection and judicial effectiveness



Index of Economic Freedom: 2013 2021. Factors are graded on a scale from 0 to 100, where 100 represents the maximum freedom.

Source: Heritage Foundation

The EU accession process is expected to assist Ukraine in addressing these fundamental challenges, which are crucial for all aspects of the country's development. According to the EC assessments in the 2023 EU Enlargement Report (European Commission 2023a: 19), Ukraine has demonstrated "good progress" but it still has "some level of preparation in implementing the EU *acquis* and European standards in the area of the judiciary, fight against corruption and fundamental rights," so further efforts are required. Moreover, the report also notes that it is imperative not to backslide, stating: "The efforts in the area of the judiciary, anti-corruption and fundamental rights need to continue and be further consolidated" (ibid.).

## VIII. Sectors with post-war growth potential: case studies

Ukraine's areas of relative strength and potential, as highlighted above, hint at where policy in the post-war years should concentrate so as to maximise the country's post-war recovery potential. Based on this, we identify six industries for which industrial policy, an FDI-attraction strategy, and institutional and education reforms should be the focus to help achieve this goal. These sectors are expected to play a critical role in Ukraine's recovery and reconstruction as well as to facilitate Ukraine's integration into the EU economy.

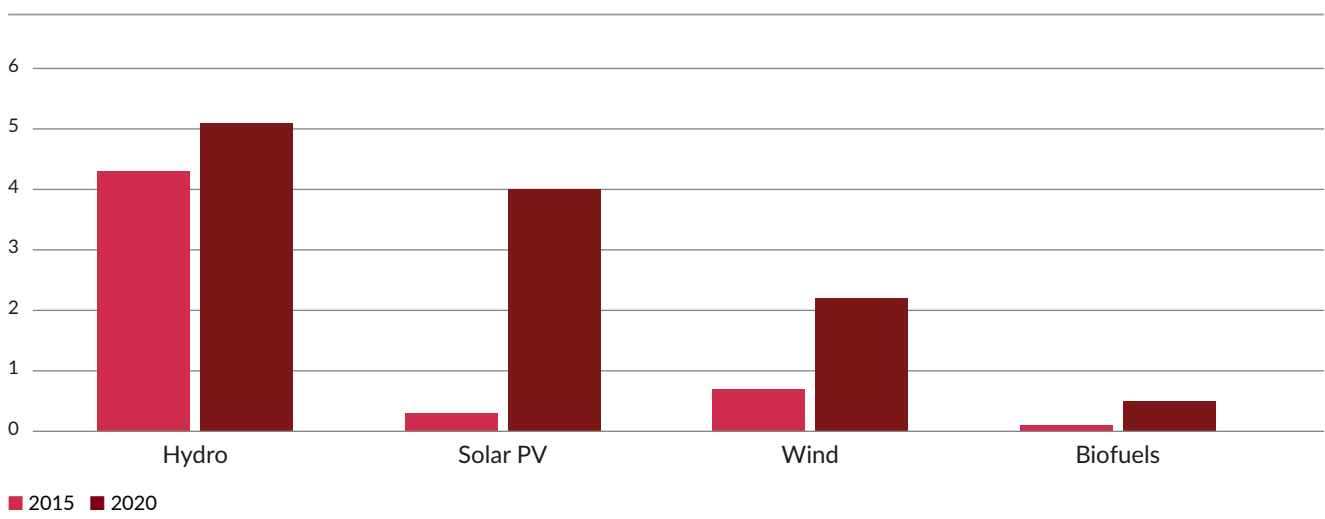
### VIII.1. Energy sector: renewables

Renewable energy generation was defined as one of the critical priorities for the Ukrainian economy in the National Economic Strategy adopted by the government in 2021 (National Economic Strategy of Ukraine 2021). Ukraine entered the top 10 countries in the world in terms of renewable energy development in

2019 and the top five European countries in terms of solar energy development in 2020. In 2019, Bloomberg New Energy Finance ranked Ukraine in 8th place (up from 63rd) among 104 countries in terms of investment attractiveness in the development of low-carbon energy sources and the construction of a green economy (Konechenkov 2022). The Ukraine National Recovery Plan, presented in July 2022 at the Lugano Conference, also considers the sector crucial for the post-war recovery and includes around € 120 billion in spending to achieve energy independence and develop green energy (National Recovery Council 2022).

Although the renewable energy sector has accounted for only a small share of the total energy production, it had been growing very fast before 2022. According to data of the International Energy Agency (IEA), in 2015, renewables accounted for 5.3 percent of Ukraine's electricity generation mix (IEA n.d.). By the end of 2020, this share had grown to 11.8 percent, mainly owing to increases

FIGURE 29: **Although the renewable energy sector accounts for a small share of total energy production in Ukraine, it has been growing very fast**



Note: Shares of renewable sources in the electricity generation of Ukraine, in %.  
(5.3% is the ratio of renewable energy in the energy mix calculated)  
Source: IEA, own calculations

in the generation of solar and wind energy (Figure 29). The National Economic Strategy set a goal of sourcing 25 percent of Ukraine's total energy mix from renewables by 2035.

Ukraine has a significant potential for generating energy using all renewable technologies. This is especially the case for biomass-based heat and power generation capacity owing to the country's extensive agricultural and forestry waste, an essential resource for this type of energy. The International Renewable Energy Agency estimated in 2015 that Ukraine should be able to increase its renewable energy use tenfold by 2030, with nearly 80 percent of the final renewable energy potential accounted for by biomass technologies, including heating buildings and industrial plants, power generation and transport (IRENA 2015). Onshore wind could reach 320 GW and solar 70 GW by 2030, with almost all of it being cost-competitive. The World Bank (2020) estimates the country's offshore wind potential at 183 GW for fixed and 68 GW for floating turbines. However, efforts to develop some of this will run into the problem that turbines will need to be situated in waters off the currently annexed Crimea (Energy Monitor 2024).

Another promising niche for Ukraine's energy sector is hydrogen. Blue and green hydrogen are vital parts of Europe's future energy mix. Since green hydrogen demands renewable energy capacities that do not yet exist, blue hydrogen, which uses natural gas and can reduce emissions by up to 85 percent compared to normal natural gas consumption, is considered an excellent interim solution. Ukraine has the most significant growth opportunities in natural gas production across Europe. The country's largest national oil and gas company, Naftogaz, recently acquired new licenses to increase production volume. Green hydrogen's annual production could be 5.5 billion cubic metres, according to the State Agency on Energy Efficiency and Energy Saving of Ukraine (Nechiporenko 2021). In addition to production potential, Ukraine has good prospects for developing a hydrogen transmission system based on the operative gas transmission system, which connects Ukraine with the EU and Moldova.

One of the main issues with the expansion of wind and solar energy generation is that it is concentrated in five regions (oblasts) in southern Ukraine: Odesa, Zaporizhzhia, Mykolaiv, Kherson and Dnipropetrovsk

(ITA 2021). As the regions have suffered significant destruction from the Russian military, considerable investment will be required to maintain and repair the energy-generation facilities.

Expanding renewable energy will depend on the interconnection and export capacity between the Ukrainian and EU electricity grids. Following the emergency synchronisation of the two networks at the beginning of the full-scale war, the Ukrainian grid operator Ukrenergo and the European Network of Transmission System Operators for Electricity (ENTSO-E) connected their grids, but interconnection levels remained low until recently (Dawes and Cahill 2022). Further integrating Ukraine's grid with Europe's will be an ongoing effort both during and after the war. In addition, legislation and standards for hydrogen production, transportation, storage and use need to be developed.

## VIII.2. Critical minerals: key to support the EU's digital and energy transition

Although Ukraine is not one of the world's largest producers of rare minerals, it holds large untapped concentrations in the subsoil. Across more than 8,700 surveyed deposits, there are 117 of the 120 most-used industrial minerals, including titanium, neon, nickel, lithium, beryllium, zirconium, tantalum, and a complex of phosphoric rare-earth and rare-metal ores, the market value of which is estimated to reach €7.1 trillion (Muggah and Dryganov 2022). The World Data Center's National Atlas of Ukraine (WDC n.d.) points out that the Ukrainian resources of rare minerals are unique and the largest in Europe. However, some of the deposits are unfortunately located in the zone of current or recent military activity, which might lead to difficulties in terms of exploring them due to the high perceived risks for investors or higher costs needed to deal with the consequences of the war, such as unexploded ordnance or destroyed infrastructure.

In 2021, the EU and Ukraine signed a strategic partnership on raw materials as a part of a broader effort to limit the Union's reliance on China to supply raw materials that are crucial for the green transition as vital components in a wide range of high-tech products, such as electric car batteries, smartphones and wind



turbines. This generated a surge of interest in Ukraine among private companies, and the state investment promotion agency (UkraineInvest) received more than 100 investment proposals from companies across Europe and North America that year (Kinch 2021). Ukraine also features prominently in the proposal of the EU Critical Raw Material Act, which includes provisions for financial support to develop production and processing capacities in countries outside the EU. The European Commission considers Ukraine a potential supplier of more than 20 elements from the list of critical raw materials to the EU and has planned several measures in the field of trade and investments in the mining and processing industries of Ukraine that work with rare-earth elements. Already in 2019, the EU launched the “New Subsoil Code of Ukraine” project in cooperation with the Ukrainian government in order to improve regulatory conditions so as to ensure the sustainable development of Ukraine’s mineral resources sector as well as to attract international investors with transparent and unambiguous market rules.

A post-war goal for Ukraine would be to set up sustainable and environmentally friendly raw-materials and battery projects in mining, refining and creating end-user products inside Ukraine. To achieve this, the national mining legislation needs to be updated so as to ensure convenient and equitable rules of access to raw materials through the deregulation and digitisation of the permitting process. This represents an opportunity for Ukraine’s integration into EU supply chains to support the EU’s digital and energy transitions, particularly in the automotive and electronics sectors.

### VIII.3. Manufacture of metals

Metallurgy is one of Ukraine’s most traditional and largest manufacturing sectors. In 2020, the gross value added generated by the sector was 1.9 percent of GDP, or about one-fifth of the manufacturing sector’s total.<sup>16</sup> According to the Observatory of Economic Complexity, metal products are among Ukraine’s most specialised products in the RCA index and most complex products in the product complexity index (OEC n.d. b).

However, the sector, which is concentrated in the eastern regions of Ukraine, has faced multiple adverse

shocks: first, during the 2008-2009 global financial crisis; second, when Russia occupied the Donbas and Crimea in 2014; and, third, with Russia’s occupation of the southeast of Ukraine and the destruction of several of the largest metal plants there in 2022 (Figure 30). Moreover, the increased trade protection measures against iron and steel products in many key markets, including the EU and the US, have harmed the sector’s exports.

The manufacture of metals had once attracted the largest amount of FDI in Ukraine, such as with ArcelorMittal’s purchase of the Kryvorizhstal steel plant in 2005, as mentioned above (section VI). However, no other major global investor has entered the market since then. Several of Ukraine’s oligarchs had large stakes in the sector, but their assets lost most of their value in 2022.<sup>17</sup>

Apart from damage from the war in 2022, the sector suffered from a logistics backlog. Metal products were primarily shipped by sea, as it was the most cost-efficient method. The Black Sea Grain Initiative<sup>18</sup> did not resolve the logistic problems for metallurgy, as metal products were not included in the deal negotiated by the UN and Türkiye. As a result, the EU autonomous trade measures introduced in May 2022 did not help the sector to recover from its supply constraints. The demolition of the Kakhovka Dam in June 2023 represented another blow for the sector, as the ArcelorMittal-owned steel plant Kryvorizhstal used to rely on water supplied from the associated reservoir.

The export situation improved in the second half of 2023. The collapse of the Black Sea Grain Initiative, following Russia’s refusal to prolong the agreement and the Ukrainian military successes in the Black Sea, allowed the establishment of a Ukrainian sea corridor and the reopening of seaborne shipments, including for metal products. The Black Sea ports are expected to come close to their pre-full-scale-war volumes in 2024.

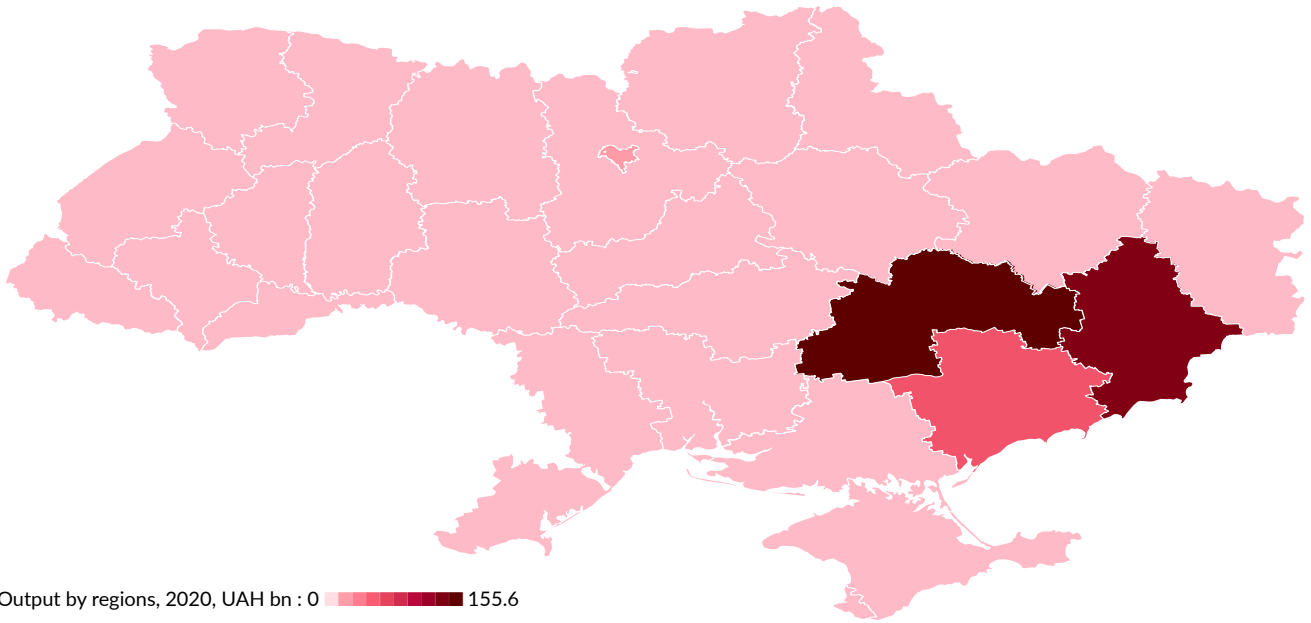
17 The largest producers in the sector are Metinvest (Rinat Akhmetov), ArcelorMittal Kryvyi Rih (ArcelorMittal), Interpipe (Victor Pinchuk) and Ferrexpo (Kostyantyn Zhevago). Metinvest lost about two-thirds of its value in 2022 (Landa and Ulyanitskyi 2022), mostly due to the destruction of the two largest metallurgical plants – Azovstal and Illich – in Mariupol. Interpipe preserved its assets, but owing to its location close to the frontline, the company faces a huge drop in production (Zinchenko 2023). Production volumes of Ferrexpo dropped by 46 percent in 2022 (Share UA Potential 2023).

18 Signed by Russia, Türkiye and Ukraine, and witnessed by the UN, the initiative aimed at the safe export of grain, fertilizers and other foodstuffs from Ukrainian ports on the Black Sea (UN 2023).

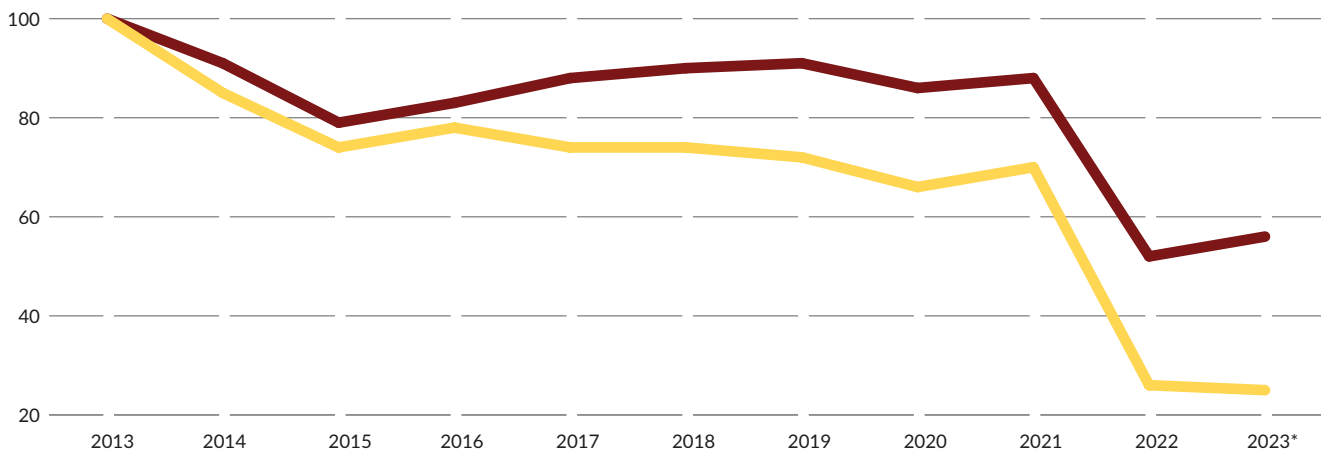
16 The latest data available; from Ukrstat.

FIGURE 30: **Ukraine's metal manufacturing is concentrated in its eastern regions and has suffered a sharp contraction due to the war**

**Regional map of Ukraine's metals manufacturing**



**Output of basic metals and total manufacturing sectors**



Index, 2013 = 100: ■ Manufacture of basic metals ■ Manufacturing

\* Based on January – September 2023.  
Source: Ukrstat, own estimates. Map created by Datawrapper

The sector has also benefited from increased internal demand, which has been fuelled by the growing construction needs and the expansion of manufacturing of military equipment.

Despite the adverse shocks, the sector still has potential to recover. This potential is based on available mineral resources, a trained labour force and established business links, which must be complemented by new technologies already available on the global market. Domestic demand is expected to stay high. At the same time, technological modernisation could help to reconquer international markets and cope with the emerging challenges related to the (as of 2026 in its definite phase) forthcoming Carbon Border Adjustment Mechanism (CBAM) and other climate-related requirements stemming from the EU Green Deal.

For that to be realised, producers will need support to fund adjustments to production processes at the preserved facilities and the introduction of environmentally friendly technologies at newly built sites. Still, the eventual role of metallurgy in Ukraine's future economic structure is likely to be smaller than it was before the full-scale war.

## VIII.4. Manufacture of machines as well as electrical and transport equipment

When describing the foregone industrial potential of Ukraine, most analysts are referring to the country's manufacturing of machines as well as electrical and transport equipment. Indeed, the sector's share in enterprise turnover decreased by half, to 5 percent, between 2001 and 2021. This downward trend can be attributed to multiple factors, including the disruption of production links inherited from the Soviet past, intense international competition, insufficient protection of intellectual property rights, and poorly developed infrastructure for introducing innovations into industrial production, including the limited access to financing and underdeveloped links between research institutions and production companies. The experiments with protectionism aiming to stimulate domestic production, such as the scheme for automobile production introduced in 1999, failed to reach their goals, although they did generate significant rents. In

its 2023 EU Enlargement Report (European Commission 2023a), the European Commission assessed the current level of Ukraine's preparedness in IPR protection as "early stage".

In 2022, there was another sharp contraction in the sector's output due to the war, as the bulk of the production facilities are located in the eastern regions, which are most affected by the war (Figure 31). However, the sector recovered in 2023, backed by the increased state military orders and the demand for new equipment by companies renewing production after the war-induced losses.

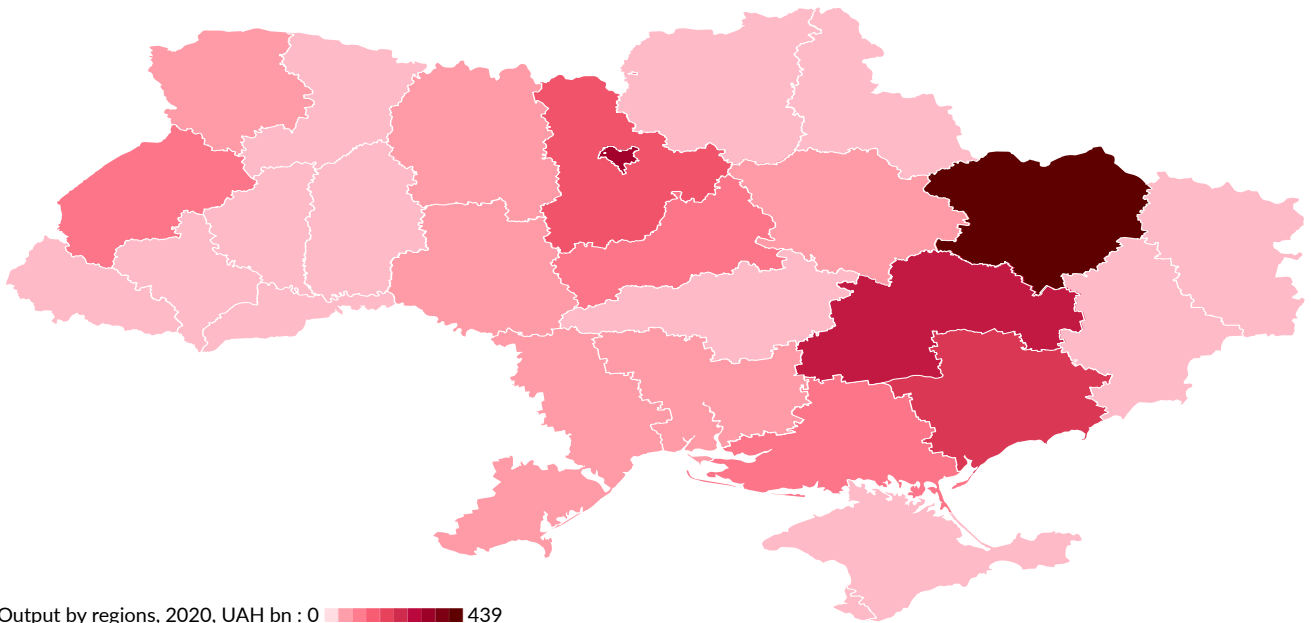
Moreover, the sector has significant development potential, as many companies have already learned to withstand global competitive pressures. For instance, better-than-average production trends have been demonstrated in the manufacture of electrical equipment (NACE 27), mainly due to the developed production of spare parts for automobiles and the servicing of EU producers. For example, the first factories of the German producer and automotive supply company Leoni were opened in the mid-2000s, but the global financial crisis and the 2010-2014 period, in which Viktor Yanukovich was Ukraine's president, halted the expansion.<sup>19</sup>

The sector received a new boost after the conclusion of the AA/DCFTA and the associated lowering of trade barriers. Since 2015, at least 10 new factories for producing wiring sets and similar equipment as well as two factories making car seat covers have been opened in Ukraine, together creating over 18,000 new jobs (Movchan 2018). The sector attracted investors from the EU, the US and Japan. The decision was driven by several factors, including relatively low labour costs, proximity to the EU, and new business opportunities expected as a result of the AA/DCFTA. After the full-scale war erupted, exports of wiring sets dropped. However, they quickly revived, as demand stayed high and logistics solutions were found, although they were more costly and time-consuming. As a result, Ukraine's exports of insulated wire became the sixth-ranked export category in 2023 (ninth-

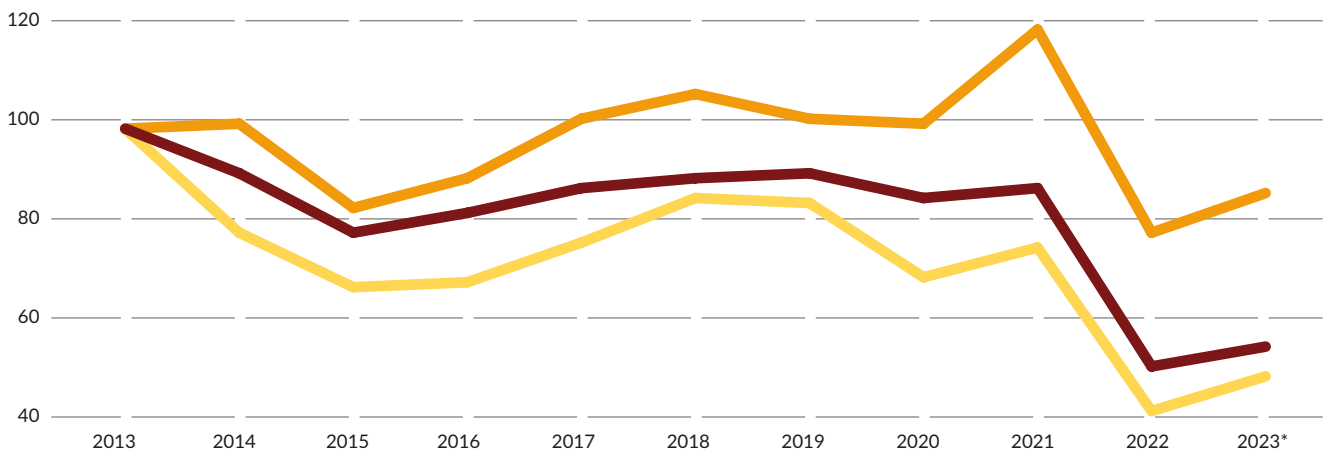
<sup>19</sup> The global financial crisis strongly impacted Ukraine's economic development, triggering bank and foreign exchange crises. In 2009, real GDP experienced a year-on-year decline of 15.1 percent. Given the weak institutional fundamentals, the country's investment attractiveness plunged. Viktor Yanukovich's victory in the presidential election of late 2009 became a landmark of eventual reform stagnation while paving the way for flourishing nepotism and corruption (e.g. Åslund 2014).

**FIGURE 31: Ukraine's manufacturing of machines as well as electrical and transport equipment is mainly located in the eastern regions and has been strongly affected by the war**

**Regional map of Ukraine's manufacturing of machines, electrical and transport equipment**



**Output of engineering and total manufacturing sectors**



Index, 2013 = 100: ■ Engineering ■ Manufacturing ■ Manufacture of electrical equipment

\* Based on January – September 2023.  
Source: Ukrstat, own estimates. Map created by Datawrapper

ranked in 2021), collectively amounting to a value of € 1.2 billion. Although this was above the value of Covid-plagued 2020, it was still 8 percent less than it was in pre-war 2021.

There are also other sub-sectors with solid growth potential, including those for manufacturing a range of military machines and equipment, in which Ukraine was a key global player before Russia's invasion of Crimea and the Donbas in 2014. This position was forfeited, as the country needed to supply the domestic market. When Russia launched its full-scale invasion in 2022, the need for a major multiplication of Ukraine's defence industry capacities became evident. Starting in 2023, several joint ventures with EU companies to produce weapons and ammunition have been publicly announced. For example, the German-Ukrainian joint venture Rheinmetall Ukrainian Defense Industry LLC was registered in October 2023, with the announced intention to open production facilities in Ukraine in several months (Mikhailov 2023). In February 2024, Poland provided the credit for Ukrainian-Polish joint weapon production (Militarnyi 2024). A memorandum between Ukraine and Belgium aiming for joint production was signed in January 2024 (Slovo I Dilo 2024). And, that same month, plans were announced for joint production with Lithuania (Freedom 2024). Moreover, in a speech before the European Parliament delivered on 6 February 2024, European Commission President Ursula von der Leyen said that the EU "must think of Ukraine's defence industry as part of our own defence industry", thereby highlighting the need and intention for deep integration of production chains. Indeed, in the post-war period, manufacturing military equipment tested on the battlefield and aligned with NATO standards is expected to become a critical sub-sector in Ukraine as well as one with impressive export prospects.

Ukraine has also retained its position in producing turbines and engines for the aircraft and aerospace industry. New niches have been developing, such as the manufacture of small planes (Konkurent 2019). Ukraine has also continued to produce and export boats and yachts, with the EU, Norway and the UK being the prime export markets (in 2023, exports amounted to €49 million, or one-third of the pre-war level). Since the closure of the Russian market in 2014, the production of railway equipment has been primarily focused on meeting the needs of the domestic market.

In sum, Ukraine's manufacturing of machines as well as electrical and transport equipment has strong potential for integration into EU value chains, especially given the prospect of EU membership. The latter is expected to improve access to finance and to change investors' perception regarding the future of Ukraine – from a "contested neighbourhood" into a member of the EU.

## VIII.5. Food industry

With an extensive agriculture production capacity, Ukraine has developed a large and diversified food industry. The manufacture of vegetable and animal oils and fats, dominated by sunflower seed oil, accounted for 29 percent of the food industry's sales in 2021. Though much smaller, other sub-sectors have potential to grow. Overall, the food industry is the largest manufacturing sector, accounting for one-third of manufacturing value added.

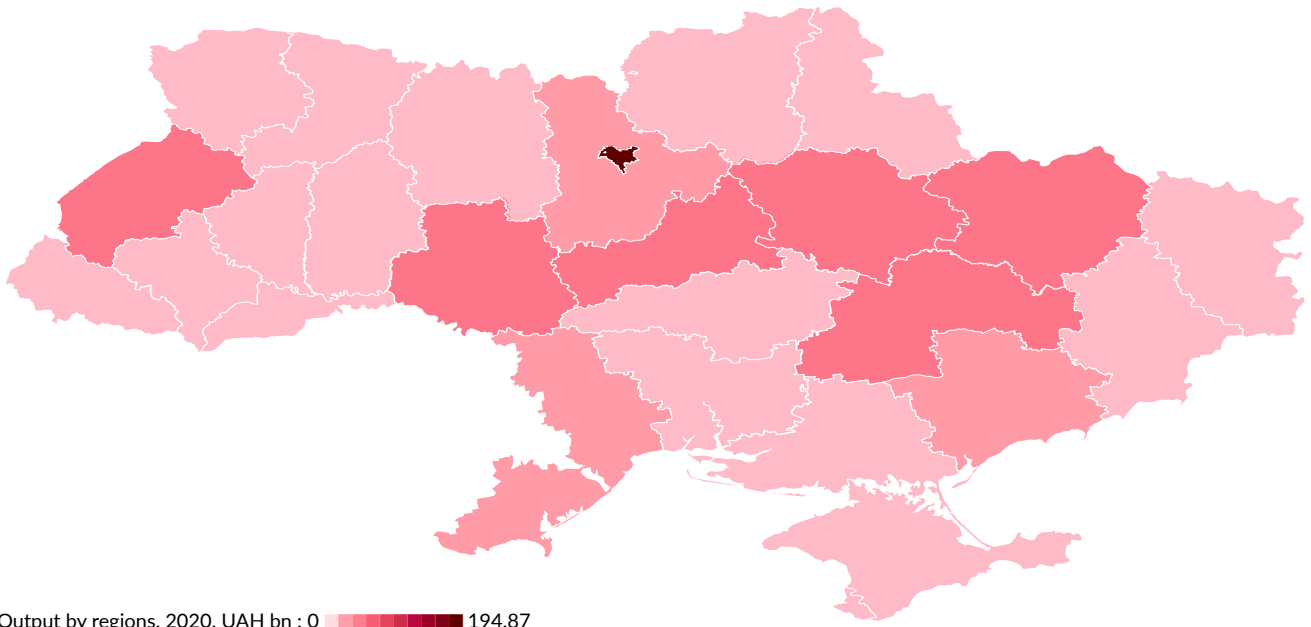
The sector has strong potential for development based on abundant resources and high domestic and international demand. Many products are already internationally competitive (including vegetable oils, flour, prepared vegetables, juices, some dairy products and confectionery), and the sector's exports have grown steadily. During the current war, food production has appeared to be one of Ukraine's most resilient industrial sectors thanks to its reliance on domestic resources, spatial and product diversification, and the significant role of small and medium enterprises (SMEs) (Figure 32).

Implementing the AA/DCFTA has created new opportunities and requirements related to several aspects, including food safety and the protection of intellectual property rights. Overall, the industry has been coping well with the adjustment to new regulations. However, SMEs could benefit from additional support in this process, especially when it comes to adhering to the geographic indicators (GIs), which require costly rebranding that might be difficult to finance at this time.

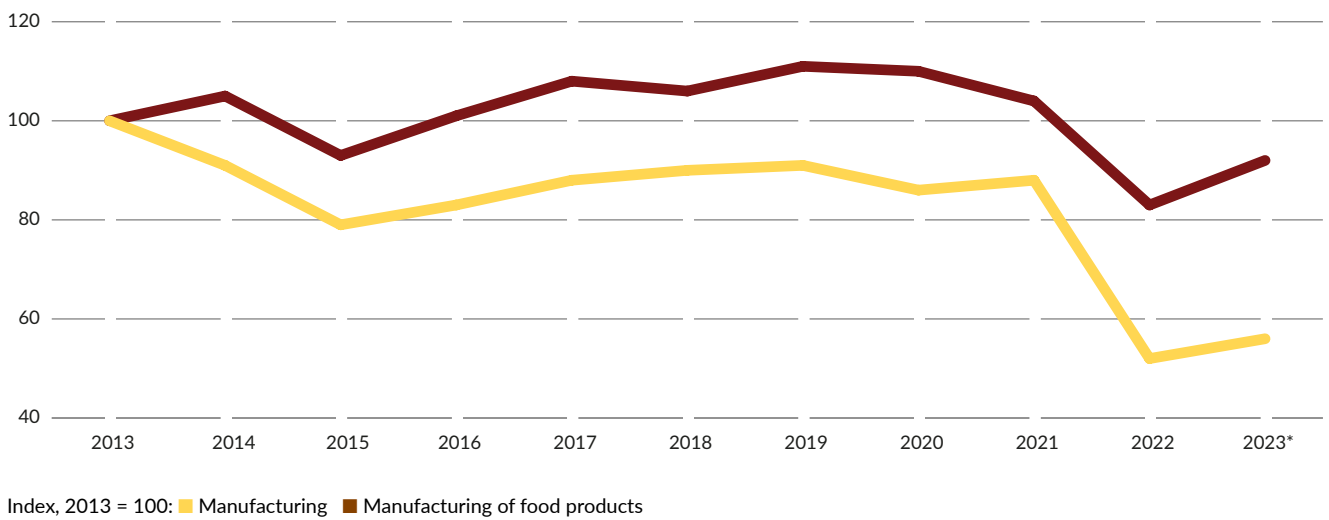
The full-scale war has also brought new challenges related to logistics. In 2022 and the first half of 2023, Black Sea port delivery was highly truncated, allowing exports of grains (for animal feed rather than human consumption) and sunflower oil, but the development of the Ukrainian sea corridor has eased these bottlenecks. If shipped by road, these items face the risk of perishing

FIGURE 32: **Ukraine's food industry has been the most resilient manufacturing sector**

**Regional map of Ukraine's food manufacturing**



**Output of food products and total manufacturing sectors**



\* Based on January – September 2023. The dark red indicates the city of Kyiv. The fact that many companies are registered there biases the geographic distribution, which would otherwise be more dispersed.  
 Source: Ukrstat, own estimates. Map created by Datawrapper

due to the long waiting times at borders – a risk that has been aggravated by the road blockades in Poland and other neighbouring countries. Accelerating the integration of Ukraine’s food industry into EU value chains is essential for increasing mutual dependence and thereby reducing the motivation for trade blockades.

## VIII.6. IT sector

Over the last decade, IT has become one of the most dynamic sectors in Ukraine, featuring solid export-oriented growth. According to the Ukraine IT Report 2021 (IT Ukraine Association 2021), the sector employs about 290,000 people (including the self-employed), and the educational system regularly supplies more IT graduates for the sector’s expansion. In fact, Ukraine has a more significant number of IT graduates than its neighbours: 68 graduates per 100,000 residents in Ukraine compared to 23 in Poland, 46 in Hungary and 54 in Estonia. As the sector depends on the quality of the available human capital, a strong focus on IT education is required for further expansion. Extensive external migration threatens future development (Tverdostup 2023).

In 2021, the sector generated about 4 percent of the country’s gross value added, compared to just 1 percent in 2013. One person engaged in the IT sector generates about twice as much value added for Ukraine as the country’s average.

Before the full-scale war, Ukraine was home to more than 100 R&D offices of international companies, including Boeing (USA), Huawei (China), Siemens (Germany), Oracle (USA), Magento (USA), Apple (USA), Microsoft (USA), Deutsche Bank (Germany), Skype (USA), eBay (USA), IBM (USA), Ericsson (Sweden), Samsung (South Korea) and Plarium (Australia) (N-iX 2019). About 45 percent of R&D partnerships in Ukraine were with US companies.

Structurally, the sector is made up of companies providing IT services (51 percent of the total), companies supplying products and services (33 percent), and product companies (16 percent). The latter include such companies as Genesis, EVO and Terrasoft. Moreover, some global development IT companies, such as Grammarly, were founded by Ukrainians. As discussed above, the US is the largest market for Ukraine’s IT

exports, followed by the UK, Malta<sup>20</sup> and Israel. At least before 2022, the EU was not the prime destination of Ukraine’s IT exports. That creates additional growth opportunities for the sector, especially following Ukraine’s integration into the EU Single Digital Market.

Thanks to its high resilience to the shocks of the full-scale war, Ukraine’s IT sector maintained its economic significance in 2022. Its share in the GDP remained at about 4 percent, while exports reached €7.1 billion (+19 percent compared to 2021). However, its growth decelerated in the last months of 2022 owing to the challenges of electricity shortages, issues associated with preserving stable internet connections, growing difficulties with retaining clients, and problems with maintaining a highly skilled labour force impacted by both migration and mobilisation. In 2023, IT exports experienced a year-on-year decline of 11 percent, to €6.4 billion, although the sector was still able to preserve its status as the largest exporter of services in Ukraine.

The CEOs of Ukrainian tech companies are moderately optimistic about the sector’s short-term prospects and strongly optimistic about its long-term development (Lviv IT Cluster 2023). The number of technical specialists working in the sector reached 307,000 in mid-2023 (+8 percent compared to mid-2022), of which almost 80 percent are located in Ukraine. The survey showed that only between 9,000 and 11,000 of the sector’s specialists (or 4 percent) may potentially move abroad within a year, so the sector is likely to preserve its core labour force. Moreover, the sector remains among the most attractive in terms of labour remuneration. The median monthly income of persons engaged in the IT sector, including those who are self-employed, was the equivalent of €2,432 in 2023.

For Ukraine, further development of its IT sector will be important, as the sector is highly resilient to security risks, has a positive development history, and is among the most promising technological sectors worldwide. Ukraine’s post-war future could be threatened, however, by the significant outflow of members of its highly skilled labour force, including the outflow of promising pupils and students. Preserving the favourable taxation regime and increasing the protection of intellectual property rights could help to mitigate this risk.

<sup>20</sup> Ukraine’s critical clients for IT services are the US and UK. Many US and UK companies are tax residents of Malta and Cyprus, so some IT exports are channeled to these countries.

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## IX. Policy recommendations

Previous research (Grieverson et al. 2023) has shown that Ukraine is not an outlier on most metrics relevant to the economic Copenhagen Criteria in the Central, Eastern and Southeastern European (CESEE) context, but that it will face unique challenges as a result of its ongoing war with Russia. Thus, it will be crucial to use the reconstruction and accession support (e.g. investments and technical assistance) to steer reconstruction and recovery in a way that dovetails with getting the Ukrainian economy ready to join – and succeed in – the EU single market.

As a long-term condition for investment attractiveness, Ukraine has to continuously and vigorously make progress on “fundamentals” and ensure that deep structural reforms get on their way and stay the course to provide effective protection of property rights. This also encompasses intellectual property rights (IPRs), as modernisation will not be possible without innovation, and poor IPR protections will weaken incentives to produce innovative products, which is an area of particular potential development in and for Ukraine.

With this in mind, and following from the main fields of research addressed in this paper, we outline in this section three policy areas in which the EU should target its support for Ukraine in the coming years so as to help Ukraine to transform itself while recovering from the war and reconstructing itself. Focusing on strengthening Ukraine’s international competitiveness and how to attract and retain investment, we consider the following policy areas to be priorities:

### **Policy 1: Help Ukraine to overcome its longstanding weakness in attracting FDI**

We have outlined in previous research (Grieverson et al. 2023) why and where Ukraine also has reasons to be positive about pushing ahead in its efforts to boost the productivity of its economy. To address the challenges resulting from the war and from being in

an unstable region with an aggressive neighbour, we consider it a priority for EU policymakers to implement the insurance guarantee scheme for war-related and political risks for European investments in Ukraine in cooperation with the Ukrainian government.

The EU should work with Ukraine to develop a sustainable model for attracting FDI beyond just cheap labour and low taxes so as to prepare it to cope with the pressures of the EU single market. We have shown in previous research (ibid.) that Ukraine’s wage levels are very low compared to Germany’s and even by the standards of the wider region. However, when potential investors look at the CESEE region, they no longer focus on labour costs, but prioritise political stability as well as quality of institutions, infrastructure and education. Thus, to attract FDI, the focus should be on increasing labour productivity by improving education, training, institutions and infrastructure. The EU can provide technical assistance with training facilities, by establishing circular mobility programmes, and by (fully) integrating Ukraine into EU educational, R&D and industrial policy programmes. The EU should also fund and provide knowledge transfer for higher education in the STEM (science, technology, engineering and math) fields and vocational education, as the standards of both are important drivers of FDI. This will be crucial because Ukraine’s integration into European value chains will occur in a different regional and integration context than that which was faced by the Central and Eastern European countries (EU-CEE) that joined the EU 20 years earlier. Crucially, Ukraine’s integration will be influenced by the EU Green Deal and the Union’s own evolving industrial policy agenda.

To address the longer-standing obstacles outlined in this paper, the EU should tailor its support to Ukraine with a range of options, such as industrial parks; training facilities, including a vocational training system; specific forms of infrastructure upgrading, including additional institutional capacity-building and equipping



laboratories (or reconstructing them if they have been damaged in fighting or shelling); and further improvements to transport connections. As part of Ukraine's efforts to build a successful and internationally competitive export sector, these kinds of investments will play a key role in enabling firms to move their goods quickly and reliably.

## **Policy 2: Encourage more trade liberalisation**

On top of the AA/DCFTA, Ukraine has been preparing for the Agreement on Conformity Assessment and Acceptance of Industrial Products (ACAA) with the EU. Talks are expected to be concluded in 2024. The EU should provide further technical assistance to upgrade Ukraine's processes and standards so as to reduce technical barriers to trade while simultaneously preparing itself to grant Ukraine mutual recognition for product safety. This will entail recognition not only of the ACAA, but also of the equivalence for food products.

The EU should continue in its efforts to transform temporary improvements in access to the EU market (e. g. tariff rate quotas and cargo transport permits) into permanent ones while at the same time working to build up the political will needed to overcome national particularities. This would provide Ukrainian businesses with more clarity and security, thereby encouraging them to take longer-term investment decisions targeting the EU market. As Ukraine's GDP is currently around 1 percent of the EU's, the potential upside for Ukraine's firms in maximising their exposure to this market as soon as possible is huge.

In addition to increased market access under the AA/DCFTA and subsequently the ACAA, the EU should support Ukraine's efforts to make it easier for companies outside of its already strong industries to export more to the EU. As we have outlined in previous research (ibid.), the EU should support with financial and technical assistance the increase of the volume of operations carried out by the Export Credit Agency of Ukraine to improve access to finance for exporters, with a particular focus on export insurance.

The EU should continue cooperating with Ukraine to help it to adopt or reduce the cost of trade regulations in the pipeline, especially the CBAM.

Finally, Brussels should encourage Ukraine to conclude free trade agreements (FTAs) with countries or trading blocs with which the EU already has FTAs in place or is currently negotiating agreements. This would allow Ukraine to improve the use of preferential rules of origin (the criteria used to define where a product is made) and thereby to qualify for lower tariffs or other benefits under those (new) trade agreements. This would boost the efficiency of preferential market access for Ukraine, making it simpler and more beneficial for Ukrainian products to enter those foreign markets under favourable terms, which in turn would increase trade volumes and stimulate diversification of export products and value chain development. By engaging in additional free trade agreements that the EU has already established, Ukraine can deepen its integration into global supply chains. This strategic alignment could lead to enhanced investments, technology transfers, and the sharing of knowledge with partner countries, subsequently improving the competitiveness of Ukrainian industries.

## **Policy 3: Develop an industrial policy**

The above-outlined suggestions for focal points for reforms must be combined with a broader range of measures in order to build an internationally competitive export sector, including an active industrial policy that seeks to incentivise higher-value FDI in particular sectors and to foster links between firms, the academic and R&D communities, and key ministries.

Exclusively focusing on supply-side reforms will be far from enough, as multiple examples of CESEE countries further along in the process of EU accession make clear. This would put a cap on Ukraine's economic development potential, leaving the country reliant on labour cost advantages and exposed to competition from Asia, in particular.

Ukraine's EU accession path should therefore be used as the impetus for setting up and harmonising Ukraine's industrial policy set-up, as it needs to implement accession Chapter 20 (enterprise and industrial policy). By building export capacity in key industries of the future, Ukraine could gain an important foothold in the huge EU market, where the advantages of more developed countries are much less engrained than in more traditional industries. The sectors that we have identified as having the best post-war growth poten-

tial are: renewable energies; critical minerals; manufacture of metals; manufacture of machines (including sub-sectors of military machines and equipment tested on the battlefield and aligned with NATO standards) as well as electrical and transport equipment; agriculture and food; and ICT.

With EU support, Ukraine could foster professionalism and accountability for its institutions involved in industrial policy. Its accelerated EU integration will allow it to follow EU-CEE countries and maximise the opportunities of increased EU funds, participation in EU research networks, and transfer of best practices to support industrial development. Ukraine may well also be able to take advantage of the EU's own renewed openness to industrial policy, which comes as a reaction to Chinese and US competition. Especially in critical minerals and green energy, the EU could help Ukraine to boost its potential and position itself as a key player in the EU's efforts to strengthen its industrial policy.

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# References

- ACC (American Chamber of Commerce Ukraine) (2021). "90 % of Businesses Forecast Upbeat Financial Health of their Companies at the End of 2021 – New Survey by the American Chamber of Commerce in Ukraine and Citi Ukraine." Online article. 21 September. <https://chamber.ua/news/90-of-businesses-forecast-upbeat-financial-health-of-their-companies-at-the-end-of-2021-new-survey-by-the-american-chamber-of-commerce-in-ukraine-and-citi-ukraine/>.
- Åslund, Anders (2014). "Why Ukraine is so poor, and what could be done to make it richer." *Eurasian Geography and Economics* (55) 3: 236–246. <https://doi.org/10.1080/15387216.2014.993326>.
- Balassa, Bela (1965). "Trade Liberalisation and 'Revealed' Comparative Advantage." *The Manchester School* (33) 2: 99-123. <https://doi.org/10.1111/j.1467-9957.1965.tb00050.x>.
- CMS (2020). "Ukraine's New Concession Law." Online article. January. <https://cms.law/en/ukr/news-information/ukraine-s-new-concession-law>.
- Dawes, Allegra, and Ben Cahill (2022). "Developing Renewable Energy in Ukraine." Center for Strategic & International Studies (CSIS). Online article. 19 December. [www.csis.org/analysis/developing-renewable-energy-ukraine](http://www.csis.org/analysis/developing-renewable-energy-ukraine).
- EBA (European Business Association) (2023). "The number of CEOs who consider investments in Ukraine profitable has almost doubled since 2022." Online article. 22 December. <https://eba.com.ua/en/kilkist-seo-yaki-vvazhayut-vygidnymy-investytsiyi-v-ukrayinu-zrosla-majzhe-vdvichi-z-2022-roku/>.
- EBA (European Business Association) (2021). "Business leaders have slightly worsened the evaluation of the investment climate in Ukraine, – the EBA survey." Online article. 14 December. <https://eba.com.ua/en/biznes-lidery-deshho-pogirshyly-otsinku-investklimatu-v-ukrayini-opytuvannya-eva/>.
- Emerson, Michael, and Steven Blockmans (2023). "The 2023 Enlargement Package – Major Political Proposals and Glimmers of a Staged Accession Approach." Stockholm Centre for Eastern European Studies (SCEEUS) Guest Report No. 19. [www.ui.se/globalassets/ui.se-eng/publications/sceeus/the-2023-enlargement-package.pdf](http://www.ui.se/globalassets/ui.se-eng/publications/sceeus/the-2023-enlargement-package.pdf).
- Emerson, Michael, and Veronika Movchan (eds.) (2021). *Deepening EU-Ukrainian Relations: Updating and upgrading in the shadow of Covid-19*. Lanham, MD: Rowman & Littlefield. <https://3dcftas.eu/publications/deepening-eu-ukrainian-relations-updating-and-upgrading-in-the-shadow-of-covid-19.-third-edition>.
- Energy Monitor (2024). "How Ukraine could be key to EU clean energy ambitions." Online article. [www.energymonitor.ai/policy/market-design/how-ukraine-could-be-key-to-eu-clean-energy-ambitions/?cf-view](http://www.energymonitor.ai/policy/market-design/how-ukraine-could-be-key-to-eu-clean-energy-ambitions/?cf-view).
- European Commission (2023a). "Ukraine 2023 Report." Commission Staff Working Document. Brussels. SWD(2023) 699 final. [https://neighbourhood-enlargement.ec.europa.eu/system/files/2023-11/SWD\\_2023\\_699%20Ukraine%20report.pdf](https://neighbourhood-enlargement.ec.europa.eu/system/files/2023-11/SWD_2023_699%20Ukraine%20report.pdf).
- European Commission (2023b). "Commission adopts exceptional and temporary preventive measures on limited imports from Ukraine." Press Release. 2 May. Brussels. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_2562](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_2562).

European Commission (2023c). "Following the expiry of the restrictive measures on Ukrainian exports of grain and other foodstuff to the EU, Ukraine agrees to introduce measures to avoid a renewed surge in EU imports." Press Release. 15 September. Brussels. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_4497](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4497).

European Commission (2022a). "Communication from the Commission to the European Parliament, the European Council and the Council: Commission Opinion on Ukraine's application for membership of the European Union." Brussels. 17 June. COM(2022) 407 final.

European Commission (2022b). "Supporting Ukrainian exports and improving connections to the EU: EU strengthens cooperation with Ukraine and Moldova." Directorate-General for Mobility and Transport. News Article. 29 June. [https://transport.ec.europa.eu/news-events/news/supporting-ukrainian-exports-and-improving-connections-eu-eu-strengthens-cooperation-ukraine-and-2022-06-29\\_en](https://transport.ec.europa.eu/news-events/news/supporting-ukrainian-exports-and-improving-connections-eu-eu-strengthens-cooperation-ukraine-and-2022-06-29_en).

Freedom (2024). "Integration into the EU and NATO, financial assistance and joint military production: Zelenskyi visited Lithuania." [in Ukrainian] Online article. <https://uatv.ua/uk/integratsiya-v-yes-i-nato-finansova-dopomoga-ta-spilne-vijskove-vyrobnytstvo-zelenskyj-vidvidav-lytvu-video/>.

Giucci, Ricardo, Veronika Movchan and Robert Kirchner (2019). "Positive effect of the DCFTA on Ukraine's exports to the EU." German Advisory Group Newsletter Issue No. 128, June. [www.beratergruppe-ukraine.de/wordpress/wp-content/uploads/2019/06/Newsletter\\_128\\_2019\\_German-Advisory-Group.pdf](http://www.beratergruppe-ukraine.de/wordpress/wp-content/uploads/2019/06/Newsletter_128_2019_German-Advisory-Group.pdf).

gov.ua (2021). "Ukraine and the European Union have signed a Common Aviation Area Agreement." [in Ukrainian] Communications Department of the Secretariat of the CMU. 12 October. [www.kmu.gov.ua/en/news/ukrayina-ta-yevropejskij-soyuz-uklali-ugodu-pro-spilnij-aviacijnij-prostir#:~:text=%22The%20Common%20Aviation%20Area%20Agreement,of%20the%20EU%20member%20states](http://www.kmu.gov.ua/en/news/ukrayina-ta-yevropejskij-soyuz-uklali-ugodu-pro-spilnij-aviacijnij-prostir#:~:text=%22The%20Common%20Aviation%20Area%20Agreement,of%20the%20EU%20member%20states).

gov.ua (2020). "The Ministry of Digitization presented the updated Roadmap for integration into the EU's Single Digital Market." [in Ukrainian] Ministry of Digital Transformation of Ukraine. 18 December. [www.kmu.gov.ua/news/mincifra-predstavila-onovlenu-dorozhnyu-kartu-integraciyi-do-yedinogo-cifrovogorinku-yes](http://www.kmu.gov.ua/news/mincifra-predstavila-onovlenu-dorozhnyu-kartu-integraciyi-do-yedinogo-cifrovogorinku-yes).

gov.ua (2018). "The permit to export products to the EU significantly simplifies access to the markets of Asia, Africa and Latin America – Mykola Bilous." [in Ukrainian] State Service of Ukraine for Food Safety and Consumer Protection. 24 April. [www.kmu.gov.ua/news/dozvil-na-eksport-produkciyi-do-yes-znachno-sproshuye-dostup-na-rinki-aziyi-afriki-ta-latinskoyi-ameriki-mikola-bilous](http://www.kmu.gov.ua/news/dozvil-na-eksport-produkciyi-do-yes-znachno-sproshuye-dostup-na-rinki-aziyi-afriki-ta-latinskoyi-ameriki-mikola-bilous).

Grieveson, Richard, Branimir Jovanović, Miriam Kosmehl, Michael Landesmann, Olha Pindyuk, Maryna Tverdostup and Stefani Weiss (2023). "Outlier or not? The Ukrainian economy's preparedness for EU accession." Joint study of the Vienna Institute for International Economic Studies (wiiw) and the Bertelsmann Stiftung. Gütersloh: Bertelsmann Stiftung. [www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Outlier\\_or\\_not.pdf](http://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Outlier_or_not.pdf).

Höra, Etienne, and Stefani Weiss (2024). "The New Geo-Economic Instruments of the European Union." Gütersloh: Bertelsmann Stiftung. [www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Geo-Economic\\_Instruments\\_of\\_the\\_European\\_Union.pdf](http://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Geo-Economic_Instruments_of_the_European_Union.pdf).

IEA (International Energy Agency) (n. d.) [www.iea.org/countries/ukraine/energy-mix](http://www.iea.org/countries/ukraine/energy-mix).

IRENA (International Renewable Energy Agency) (2015). REmap 2030 Renewable Energy Prospects for Ukraine. [www.irena.org/-/media/Files/IRENA/Agency/Publication/2015/Apr/IRENA\\_REmap\\_Ukraine\\_paper\\_2015.pdf](http://www.irena.org/-/media/Files/IRENA/Agency/Publication/2015/Apr/IRENA_REmap_Ukraine_paper_2015.pdf).

IT Ukraine Association (2021). "Ukraine IT Report 2021." [https://drive.google.com/file/d/1rDOzj3\\_hKgXflj8czwIVzP8Ct4lBY5eW/view](https://drive.google.com/file/d/1rDOzj3_hKgXflj8czwIVzP8Ct4lBY5eW/view).

- ITA (International Trade Administration) (2021). "Ukraine Renewable Energy Market." International Trade Administration of the U.S. Department of Commerce. Online article. 26 April. [www.trade.gov/market-intelligence/ukraine-renewable-energy-market](http://www.trade.gov/market-intelligence/ukraine-renewable-energy-market).
- Kinch, Diana (2021). "Ukraine may advance with critical minerals project auctions this year: Geological Service." S & P Global Commodity Insights. Online article. 10 May. [www.spglobal.com/commodityinsights/en/market-insights/latest-news/metals/051021-ukraine-may-advance-with-critical-minerals-project-auctions-this-year-geological-service](http://www.spglobal.com/commodityinsights/en/market-insights/latest-news/metals/051021-ukraine-may-advance-with-critical-minerals-project-auctions-this-year-geological-service).
- Kochnev, Artem, Miriam Kosmehl, Michael Landesmann, Ambre Maucorps, Bernhard Moshammer and Stefani Weiss (2023). „Ukraine's economic reconstruction. Addressing territorial inequalities, consolidating regional policy and reaping the benefits of EU integration." Joint study of the Vienna Institute for International Economic Studies (wiiw) and the Bertelsmann Stiftung. Gütersloh: Bertelsmann Stiftung. [www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Ukraines\\_economic\\_reconstruction.pdf](http://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Ukraines_economic_reconstruction.pdf).
- Konechenkov, Andriy (2022). "Ukraine's renewable energy sector before, during and after the war." Razumkov Centre. <https://razumkov.org.ua/en/articles/ukraines-renewable-energy-sector-before-during-and-after-the-war>.
- Konkurent (2019). "Ukraine produces 200 aircraft annually. Why doesn't anyone know about this?" [in Ukrainian] Online article. 1 June. <https://konkurent.ua/publication/41621/v-ukraini-viroblyaut-200-litaktiv-schorichno-chomu-pro-tse-niht-ne-znae/>.
- Kosse, Iryna (2023). "Rebuilding Ukraine's Infrastructure after the War." The Vienna Institute for International Economic Studies (wiiw). Policy Note/Policy Report No. 72. July. <https://wiiw.ac.at/rebuilding-ukraine-s-infrastructure-after-the-war-dlp-6621.pdf>.
- Landa, Volodymyr, and Dmytro Ulyanitskyi (2022). "Business Anatomy of Rinat Akhmetov's Empire. How impoverished is the richest Ukrainian because of the war. Forbes Score." *Forbes Ukraine Magazine* 27 July. <https://forbes.ua/inside/akhmetov-26072022-7344#>.
- Lviv IT Cluster (2023). "IT Research Ukraine 2023: Adaptability and Resilience Amidst War." Study conducted with IT Research Ukraine with support from the USAID and the Ministry of Digital Transformation of Ukraine. <https://itcluster.lviv.ua/wp-content/uploads/2023/12/it-research-ukraine-2023-public-eng.pdf>.
- Market Screener (2024). Profile of Veon Ltd. [www.marketscreener.com/quote/stock/VEON-LTD-34473559/company/](http://www.marketscreener.com/quote/stock/VEON-LTD-34473559/company/) (accessed on 4 March 2024).
- Masiuk, Maria (2023). "A French company became the owner of the Ukrainian mobile operator lifecell." [in Ukrainian] *Zaxid.net* 31 December. [https://zaxid.net/vlasnitseyu\\_ukrayinskogo\\_mobilnogo\\_operatora\\_lifecell\\_stala\\_frantsuzka\\_kompaniya\\_n1577221](https://zaxid.net/vlasnitseyu_ukrayinskogo_mobilnogo_operatora_lifecell_stala_frantsuzka_kompaniya_n1577221).
- Mikhailov, Dmytro (2023). "Ukraine and Germany have created a joint defence enterprise – Shmyhal." [in Ukrainian] Public Broadcasting Company of Ukraine 24 October. <https://suspilne.media/601167-ukraina-ta-nimeccina-stvorili-spilne-oboronne-pidpriemstvo-smigal/>.
- Militaryni (2024). "Poland allocated a credit for joint production of weapons with Ukraine – Office of the President of Ukraine." Online article. 5 February. <https://mil.in.ua/en/news/poland-allocated-a-credit-for-joint-production-of-weapons-with-ukraine-office-of-the-president-of-ukraine/>.
- Movchan, Veronika (2018). "Ukraine's exports grow, driven by shipments to the EU." *German Advisory Group Newsletter* Issue No. 118. [www.beratergruppe-ukraine.de/wordpress/wp-content/uploads/2018/08/Newsletter\\_118\\_2018\\_German-Advisory-Group.pdf](http://www.beratergruppe-ukraine.de/wordpress/wp-content/uploads/2018/08/Newsletter_118_2018_German-Advisory-Group.pdf).

Movchan, Veronika, Bohdan Kostiv and Garry Polushkin (2022). "Shortage of bilateral transport permits for trucks: Effect on trade between Ukraine and EU countries. An update." German Economic Team (GET) Ukraine. Policy Briefing No. 1. January. [www.german-economic-team.com/wp-content/uploads/2022/02/GET\\_UKR\\_PB\\_01\\_2022.pdf](http://www.german-economic-team.com/wp-content/uploads/2022/02/GET_UKR_PB_01_2022.pdf).

Movchan, Veronika, and Garry Polushkin (2023). "Changes in Ukraine's trade structure since the beginning of the full-scale war." German Economic Team (GET). Policy Briefing Ukraine No. 1. April. [www.german-economic-team.com/wp-content/uploads/2023/04/GET\\_UKR\\_PB\\_01\\_2023.pdf](http://www.german-economic-team.com/wp-content/uploads/2023/04/GET_UKR_PB_01_2023.pdf).

Movchan Veronika, Garry Polushkin and David Saha (2021). "The forthcoming ACAA between the EU and Ukraine: What to expect." German Economic Team (GET) Ukraine. Policy Study No. 2. [www.german-economic-team.com/wp-content/uploads/2021/11/GET\\_UKR\\_PS\\_02\\_2021.pdf](http://www.german-economic-team.com/wp-content/uploads/2021/11/GET_UKR_PS_02_2021.pdf).

Movchan, Veronika, and Kenneth Rogoff (2022). "International trade and foreign direct investment." In *Rebuilding Ukraine: Principles and Policies*, edited by Yuriy Gorodnichenko, Ilona Sologoub and Beatrice Weder di Mauro. London: Centre for Economic Policy Research (CEPR) Press. 119–165. [https://cepr.org/system/files/publication-files/178114-paris\\_report\\_1\\_rebuilding\\_ukraine\\_principles\\_and\\_policies.pdf](https://cepr.org/system/files/publication-files/178114-paris_report_1_rebuilding_ukraine_principles_and_policies.pdf).

Movchan, Veronika, Thomas F. Rutherford, David G. Tarr and Hidemichi Yonezawa (2020). "Impact Assessment of a Potential Free Trade Agreement (FTA) between Ukraine and Turkey." Report prepared by the Institute for Economic Research and Policy Consulting for USAID (CEP contract # CEP-2019-134). [www.ier.com.ua/files/Projects/2020/CEP\\_CGE/Research/Ukraine-Turkey-FTA-Final-Report-with-Annexes.pdf](http://www.ier.com.ua/files/Projects/2020/CEP_CGE/Research/Ukraine-Turkey-FTA-Final-Report-with-Annexes.pdf).

Muggah, Robert, and Vadim Dryganov (2022). "Russia's Resource Grab in Ukraine." Online article. *Foreign Policy Magazine*. 22 April. <https://foreignpolicy.com/2022/04/28/ukraine-war-russia-resources-energy-oil-gas-commodities-agriculture/>.

National Economic Strategy of Ukraine (2021). Only available in Ukrainian at official government site. Decree 179 by Cabinet of Ministers of 03.03.2021. [www.kmu.gov.ua/npas/pro-zatverdzhennya-nacionalnoyi-eko-a179](http://www.kmu.gov.ua/npas/pro-zatverdzhennya-nacionalnoyi-eko-a179).

National Recovery Council (2022). "Ukraine's Recovery Plan." [www.urc-international.com/urc2022-recovery-plan](http://www.urc-international.com/urc2022-recovery-plan).

NBU (National Bank of Ukraine) (2024a). "Estimation of round tripping transactions for 2010–2023." Kyiv. [https://bank.gov.ua/admin\\_uploads/article/FDI\\_round\\_tripping\\_ICL-DFS\\_pr\\_eng.pdf?v=6](https://bank.gov.ua/admin_uploads/article/FDI_round_tripping_ICL-DFS_pr_eng.pdf?v=6).

NBU (National Bank of Ukraine) (2024b). "Speech by NBU Governor Andriy Pyshnyy at Press Briefing on Monetary Policy Decisions." 25 January. <https://bank.gov.ua/en/news/all/vistup-golovi-natsionalnogo-banku-andriya-pishnogo-pid-chas-presbrifingu-schodo-rishen-z-monetarnoyi-politiki-18088>.

NBU (National Bank of Ukraine) (2023). "Inflation Report, October 2023." 2 November. <https://bank.gov.ua/en/news/all/inflyatsiyniy-zvit-jovten-2023-roku>.

Nechiporenko, Maksim (2021). "Ukraine can produce 5.5 billion cubic meters of 'green' hydrogen – SAE." Online article. *the page* 31 March. <https://en.thepage.ua/news/ukraine-can-produce-55-billion-cubic-meters-of-green-hydrogen>.

N-iX (2019). "Ukraine. The Country That Codes. IT Industry in Ukraine. 2019 Market Report." <https://eufordigital.eu/wp-content/uploads/2019/10/Ukr-report-29.pdf>.

OECD (Observatory of Economic Complexity) (n. d. a). "Country Rankings." Information on 2021. <https://oec.world/en/rankings/eci/hs6/hs96?tab=ranking> (accessed on 4 March 2024).

OECD (Observatory of Economic Complexity) (n. d. b). "Country Profile Ukraine." Information on 2021. <https://oec.world/en/profile/country/ukr> (accessed on 4 March 2024).

Parliament of Ukraine (2022). "The Law of Ukraine about the media." [in Ukrainian] No. 2849-IX. <https://zakon.rada.gov.ua/laws/show/2849-20#Text>.

- Parliament of Ukraine (2020). "The Law of Ukraine on amendments to certain legislative acts of Ukraine regarding the terms of circulation of agricultural land." [in Ukrainian] No. 552-IX. <https://zakon.rada.gov.ua/laws/show/552-IX#Text>.
- Pylypov, Ihor (2023). "The court cancelled the seizure of shares of Kyivstar and lifecell, except for the shares of Russian oligarchs." [in Ukrainian] *Ekonomichna Pravda* 18 October. [www.epravda.com.ua/news/2023/10/18/705585/](http://www.epravda.com.ua/news/2023/10/18/705585/).
- Sabadyshina, Yulia (2023). "'Trends are disappointing': We analyzed the volume of Ukrainian IT exports for the third quarter and asked experts what to expect by the end of the year." [in Ukrainian] *DOU.ua* 1 November. <https://dou.ua/lenta/articles/it-export-3-quarter-2023/>.
- Share UA Potential (2023). "Ferrexpo has good financial standing despite all the challenges." Online article. 16 March. <http://shareupotential.com/News/Newsline/ferrexpo-fin-results-2022-12.html>.
- Slovo I Dilo (2024). "Ukraine and Belgium will jointly produce weapons." [in Ukrainian] *Slovo I Dilo* 30 January. [www.slovoidilo.ua/2024/01/30/novyna/bezpeka/ukrayina-ta-belhiya-spilno-vyroblyatymut-ozbroyennya](http://www.slovoidilo.ua/2024/01/30/novyna/bezpeka/ukrayina-ta-belhiya-spilno-vyroblyatymut-ozbroyennya).
- Tverdostup, Maryna (2023). "The Demographic Challenges to Ukraine's Economic Reconstruction." The Vienna Institute for International Economic Studies (wiiw). Policy Note/Policy Report No. 71. July. <https://wiiw.ac.at/the-demographic-challenges-to-ukraine-s-economic-reconstruction-p-6620.html>.
- UkraineInvest (2024a). "Investment projects with significant investments." <https://ukraineinvest.gov.ua/en/incentives/investment-projects-with-significant-investments/> (accessed 4 March 2024).
- UkraineInvest (2024b). "Industrial parks." <https://ukraineinvest.gov.ua/en/incentives/industrial-parks/> (accessed 4 March 2024).
- UN (United Nations) (2023). Black Sea Grain Initiative Joint Coordination Centre. [www.un.org/en/black-sea-grain-initiative](http://www.un.org/en/black-sea-grain-initiative).
- World Bank (2020). "Going Global: Expanding Offshore Wind to Emerging Markets (Vol. 16): Technical Potential for Offshore Wind in Black Sea – Map (English)." Washington, D. C.: World Bank Group. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/718341586846771829>.
- WDC (World Data Center) (n.d.). National Atlas of Ukraine. <http://wdc.org.ua/atlas/en/4040100.html>.
- WTO (World Trade Organization) (2023). "Ukraine initiates WTO dispute complaints against Hungary, Poland and Slovak Republic." Online article. 21 September. [www.wto.org/english/news\\_e/news23\\_e/ds619\\_620\\_621rfc\\_21sep23\\_e.htm](http://www.wto.org/english/news_e/news23_e/ds619_620_621rfc_21sep23_e.htm).
- Zinchenko, Stanislav (2023). "Interpipe showed a high level of stability during the war." GMK Center. Online article. 17 October. <https://gmk.center/en/interview/interpipe-showed-a-high-level-of-stability-during-the-war/>.

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# List of abbreviations

<b>AA</b>	Association Agreement	<b>SAEE</b>	Stage Agency on Energy Efficiency and Energy Saving of Ukraine
<b>ACAA</b>	Agreement on Conformity Assessment and Acceptance of Industrial Products	<b>SMEs</b>	Small and medium-sized enterprises
<b>AEO</b>	Authorised economic operator	<b>SPSs</b>	Sanitary and phytosanitary measures
<b>CAP</b>	Common Agricultural Policy	<b>TBTs</b>	Technical barriers to trade
<b>CBAM</b>	Carbon Border Adjustment Mechanism	<b>TRQs</b>	Tariff rate quotas
<b>CEE</b>	Central and Eastern Europe	<b>UNCTAD</b>	United Nations Conference on Trade and Development
<b>CEN</b>	European Committee for Standardization	<b>Ukrstat</b>	State Statistics Service of Ukraine
<b>CENELEC</b>	European Committee for Electrotechnical Standardization	<b>wiiw</b>	The Vienna Institute for International Economic Studies
<b>CESEE</b>	Central, Eastern and South-Eastern Europe	<b>WTO</b>	World Trade Organisation
<b>CIS</b>	Commonwealth of Independent States		
<b>DCFTA</b>	Deep and Comprehensive Free Trade Area		
<b>EC</b>	European Commission		
<b>ENTSO-E</b>	European Network of Transmission System Operators for Electricity		
<b>EU</b>	European Union		
<b>FAO</b>	Food and Agriculture Organisation of the United Nations		
<b>FDI</b>	Foreign direct investment		
<b>FTA</b>	Free trade agreement		
<b>GDP</b>	Gross domestic product		
<b>GIs</b>	Geographic indicators		
<b>GVCs</b>	Global value chains		
<b>HS</b>	Harmonized system		
<b>IPRs</b>	Intellectual property rights		
<b>ICT</b>	Information and communication technologies		
<b>IRENA</b>	International Renewable Energy Agency		
<b>IT</b>	Information technology		
<b>NACE</b>	Nomenclature of Economic Activities		
<b>NATO</b>	North Atlantic Treaty Organization		
<b>NBU</b>	National Bank of Ukraine		
<b>OECD</b>	Organisation for Economic Co-operation and Development		
<b>p.p.</b>	Percentage point		
<b>R&amp;D</b>	Research and development		
<b>RCA</b>	Revealed comparative advantage		
<b>RoW</b>	Rest of the world		



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