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UKRAINIAN RECOVERY DIGEST BY KSE INSTITUTE

MOVING FORWARD TOGETHER

MAY 2023

INTRODUCTION

We are pleased to present the first issue of the KSE Digest

Our research is specifically focused on key data and the policy updates, which may be of interest for experts and researchers, providing in-depth analysis of economic policies, and reconstruction efforts, budgetary and taxation changes, the public procurement system, as well as current data on business and investment activities in Ukraine.

This digest consists of six main parts that correspond to the main areas of KSE Institute's expertise:

- **Macro Economic,** presented by the **Center of Public Finance and Governance** and covers the impact of the war on the economy, current situation, risks, and outlook we foresee.
- **Business Environment** presents an overview of the key data and tendencies in the sphere of private business in Ukraine, including recovery efforts, export issues, the current state of the business environment, and its main needs.
- **Agro Sector** presents an analysis of the impact Russian invasion has caused on the Ukrainian agricultural sector, resulting in losses close to 75% of last year Ukraine's agricultural output, difficulties with the export routes, increase in transportation costs as well risks and outlook for the next season harvest.
- **Damages and Recovery** sections are presented by the **"Russia Will Pay"** project and follows the most important changes in the damages caused by Russia to Ukraine's infrastructure that already reached $147,5bn, as well as the latest updates in the recovery needs and process.
- **Public Procurement** section is developed by the **Research and Analysis in Public Procurement team** of KSE Institute. In this part, we present the latest developments regarding procurement policy and regulation.

The team of KSE Institute wants to express our gratitude for your unwavering dedication to Ukraine. Your commitment and invaluable support, whether through diplomatic efforts or material assistance, in upholding our sovereignty and territorial integrity have provided us with much-needed strength and encouragement to continue fighting for our freedom.

This digest has been made possible through the generous support of the European Union. It encompasses research findings that have been obtained as a result of the various projects undertaken by the Kyiv School of Economics, with additional assistance provided by the Government of Great Britain (UK Aid), the US Agency for International Development (USAID), the International Renaissance Foundation, and the World Bank.

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01 MACROECONOMY

ECONOMIC OVERVIEW

About 18% of the country's area and millions of people remain under occupation (corresponds to 12% of pre – full-scale war GDP). The occupation and fighting caused supply disruptions, logistical bottlenecks stemming from Russia's sea blockade, and refugee exodus. The Ministry of Social Policy reported the number of internally displaced people (IDPs) in 2022 stood over 5 m, and over 8 m have fled Ukraine. Unemployment grew from about 10% at the end of 2021 to about 25-26% in 2022, based on NBU data. According to detailed GDP data from the State Statistics Service of **Ukraine Real GDP fell by 29.1% in 2022**.

The infrastructure destructions across a large area suffered from war, as well as the breakdown of logistics chains and the persistence of external factors such as high energy and food prices put upward pressure on inflation. However, consumer inflation did not experience hyperinflationary surges and performed better than expected in 2022 due to the weak consumer demand, a restrictive monetary policy, frozen tariffs on housing and utilities , and a stable foreign exchange market. As a result, **prices in Ukraine increased by 26.6% in 2022, according to NBU data**.

An essential factor in maintaining economic stability was the early implementation of an official fixed exchange rate for the hryvnia. This measure helped to control exchange rate expectations and alleviate market pressures, despite the significant uncertainty faced by businesses at the time. At the beginning of the war, the National Bank of Ukraine temporarily moved away from its flexible exchange rate policy and fixed the rate at 9.25. Since July 21, 2022, **the exchange rate for the dollar has been fixed at 36.57 UAH/USD, resulting in a devaluation of 25%**.

Following a challenging year in 2022, **Ukraine's exports of goods decreased by 35%** compared to 2021, amounting to 100m tons with a total value of $44.2 bn, according to NBU data. Additionally, **exports of services fell by 28.3%** compared to 2021, reaching $9.2 bn. The decline in exports was driven by two factors: the impairment of export-oriented companies' capacities and logistical obstacles arising from the closure of Black Sea ports by Russia. Although the implementation of the Grain Corridor and the creation of new transportation routes across Ukraine's western border partially mitigated the negative effects of the closures of traditional export pathways, the impact was only partial.

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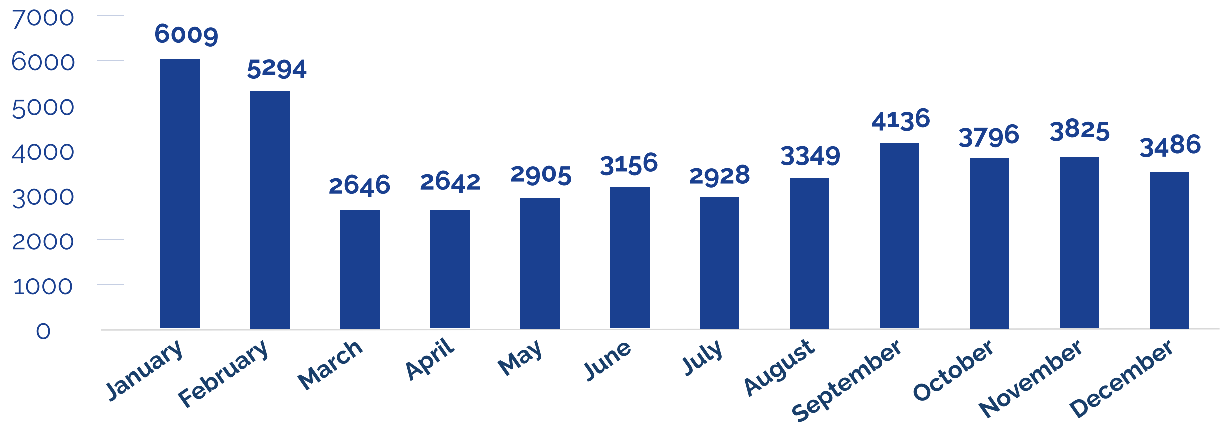
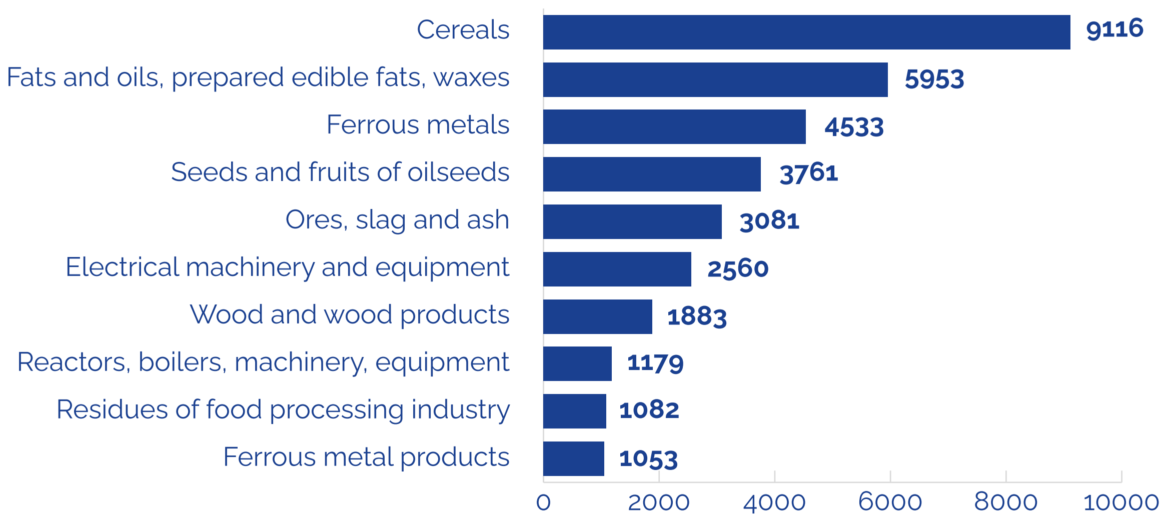
Figure 1. Exports of Ukraine in 2022, $m



Source: KSE Institute, NBU

Figure 2. Export by product in 2022, $m (TOP-10)



Source: KSE Institute, NBU

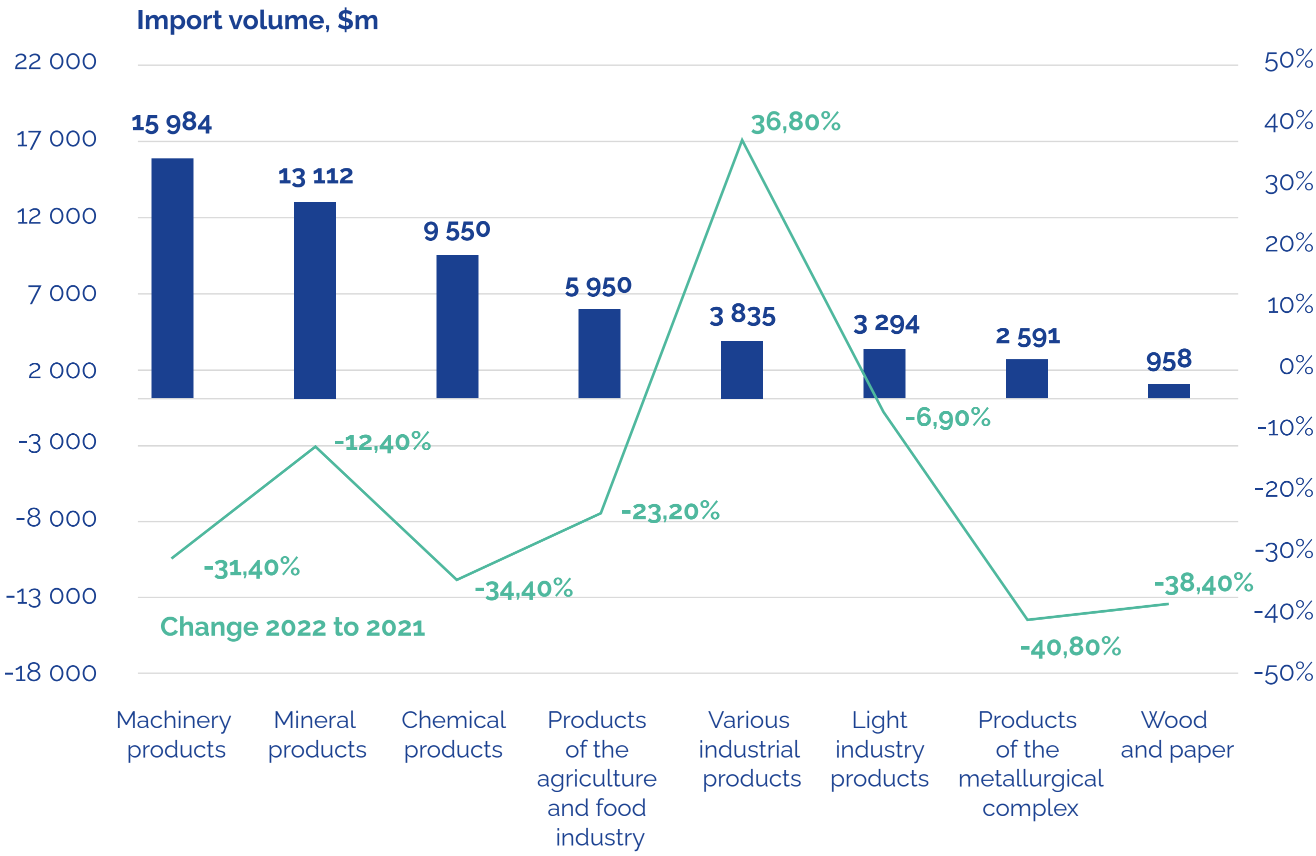
01 MACROECONOMY

Amid the decline in domestic production, the role of imported supplies has increased, although import volumes have also decreased (by 18.5%) in response to the contraction in domestic demand. **The contribution of net exports to the change in GDP was negative (-9.5% percentage points)**.

A sharp decline in exports (35% in products and 28.3% in services) in 2022, coupled with much lower imports that changed by only -3.9%, **resulted in a negative trade balance of $ 25.9 bn**, compared to $ -2.7 bn in 2021.

The import of goods decreased by 20.3% over the year, to $ 55.6 bn. Energy imports fell by 8.9% and non-energy imports by 23.2%, in particular, imports of machinery production fell by 31.4%, chemical industry production by 34.4%, food products by 22.2%, and black and non-ferrous metals by 40.8%. In 2022, the largest decrease in nominal terms was in imports from the Commonwealth of Independent States countries (by 66.7%).

Figure 3. Import by products in 2022



Source: KSE Institute, NBU

01 MACROECONOMY

The Ukrainian industry has been negatively affected by various factors, including the destruction of production facilities and infrastructure, reduced consumer and investment demand, and energy supply disruptions caused by the shelling of critical infrastructure by Russia. However, some sectors, such as machine building, light industry, and food industries, received support from state financing of military orders. The chemical industry also benefited from the reorientation of agricultural producers toward domestic fertilizers. The extractive industry experienced a significant decline in 2022, primarily due to a reduction in metal ore production caused by the blockade of Ukrainian ports. The metallurgical industry was the hardest hit, with steel production decreasing by 70.7%, iron production by 69.8%, and rolled metal production by 72%. Overall, **industrial production in Ukraine decreased by 36.9% in 2022**, compared to a growth of 1.9% in 2021.

After the initial shock, the country's economy slowly began to recover by the third quarter of 2022, thanks to the further liberation of Ukrainian land, businesses' adaptation to new conditions, and the Black Sea Grain Initiative. While the initiative has had a positive impact on GDP, obstacles to economic recovery remain.

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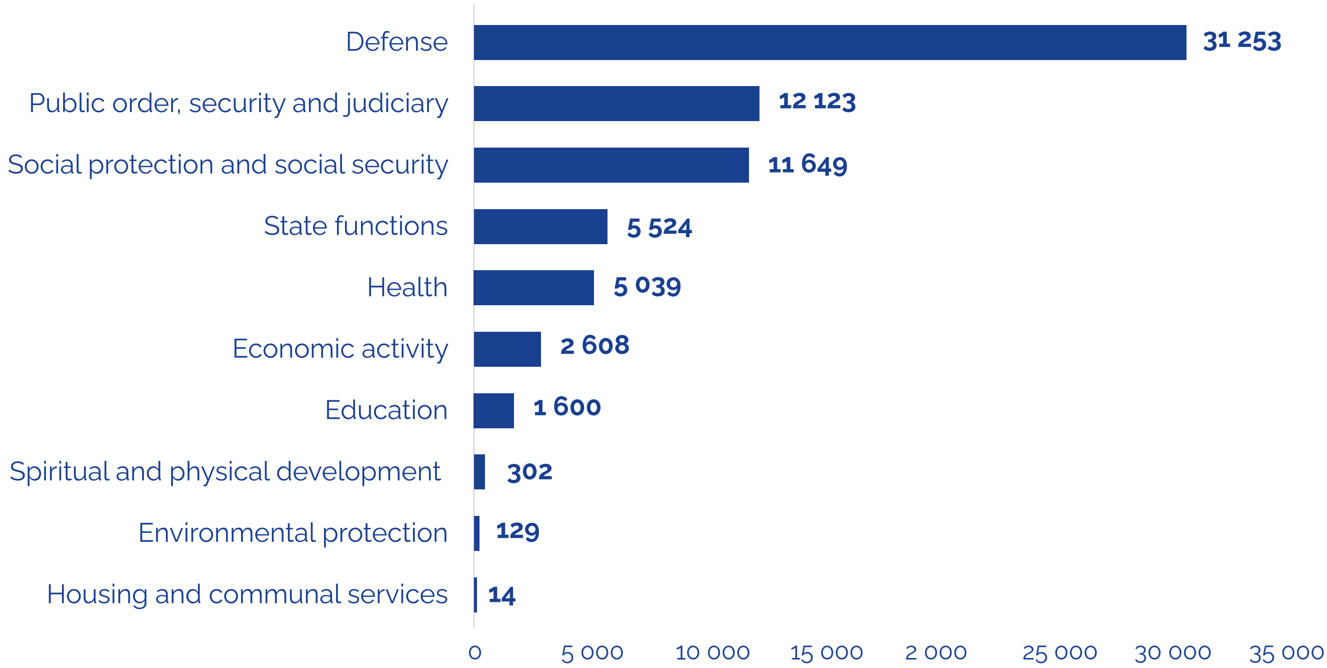
Ukraine's fiscal position weakened as the war led the government to prioritize redirecting public spending to military goals and implementing priority social expenditures to support the livelihoods of the population and internally displaced persons, while also ensuring the functioning of critical infrastructure. At the start of the full-scale invasion, **all non-critical budget expenditures were ceased**.

Defense and security spending became a top priority and increased by a staggering nine times compared to 2021 (estimated at $3.2 bn per month from May to April and $4.6 bn from May to December, up from $0.9 bn in 2021). Importantly, these expenses are **fully financed by Ukraine's own budget revenues**. The budget of the Ministry of Defence has increased by 7.4 times compared to the original version, amounting to $312m.

At the beginning of the full scale war, 42% of spending was allocated to salaries, with 77% of that being financial support for military personnel. The mobilization of the population has significantly increased the size of Ukraine's military forces and its salary costs. Additionally, 23% of expenditures were dedicated to payments for goods and services, with 56% of that going toward providing the armed forces with military equipment, weapons, ammunition, and defense products.

Figure 4. Budget expenditures in Ukraine in 2022, $ m



Source: OpenBudget

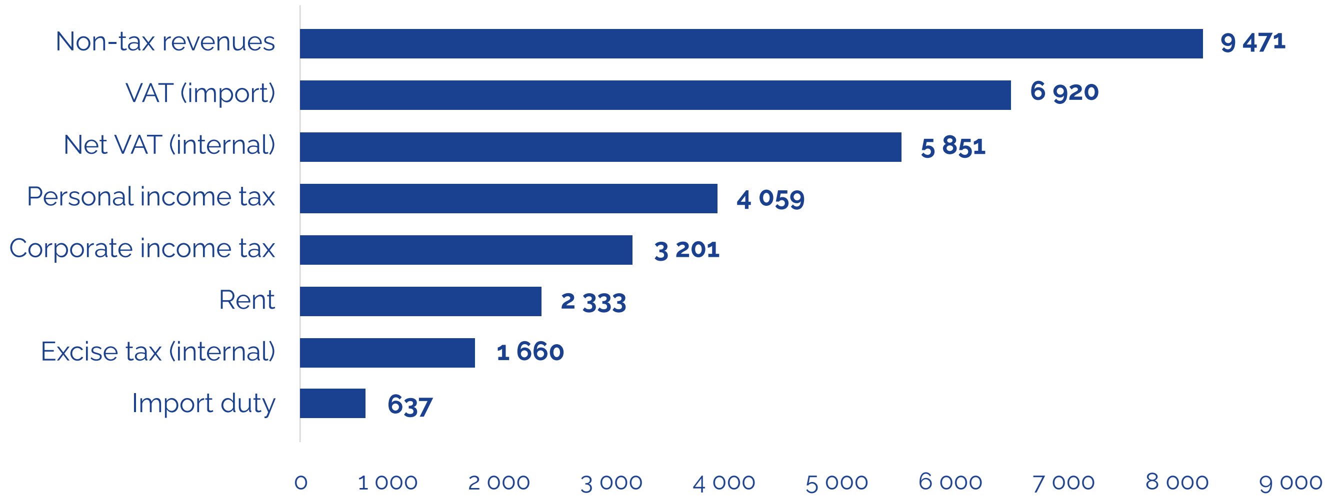
Social security payments, including pensions, aid, and scholarships, accounted for 20.4% of total expenditures. The total expenditures in 2022 for the payment of accommodation allowances to IDPs amounted to more than UAH 50 bn, compared to the previous year of 2021, due to an increase in recipients by 1.4 m people, according to Ministry of Social Policy.

01 MACROECONOMY

After February 24, the shock of war made the revenue situation more complicated, making it **difficult to accumulate the revenues needed to finance the record growth in expenditurure, especially as 80% of all tax and non-tax revenues, were spent on defense,excluding the contributions of international partners**.

The budget deficit grew dramatically to $25 bn in 2022 as a result, but the government took an adaptive approach to addressing the challenges for its public finances.

Figure 5. State budget revenues in Ukraine in 2022, $ m

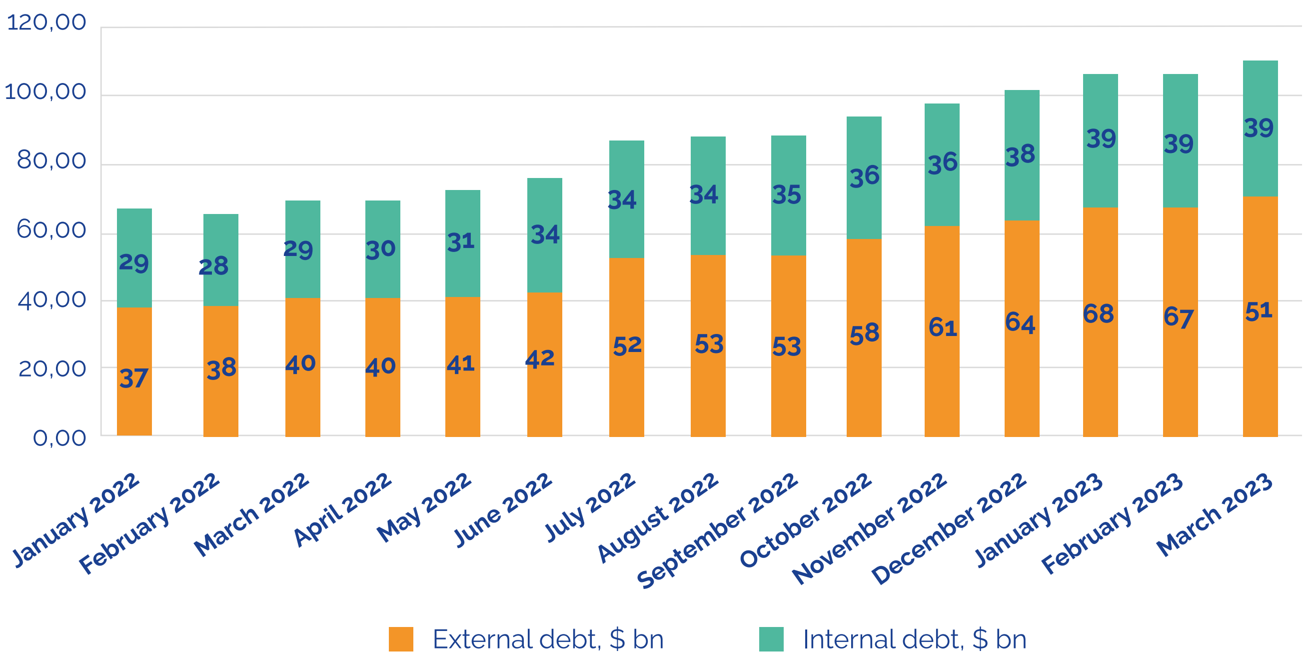


Source: OpenBudget

To finance the budget deficit, Ukraine began to attract international borrowings. Since February 24, 2022, **Ukraine has received $48.6 bn in international aid**: $32.1 bn in 2022 and $16.5 bn in 2023. As a result, the average monthly budget deficit from March 2022 to February 2023 was $3.5 bn. **The debt burden by December 31, 2022, reached 75.4% of GDP or $101.5 bn (up 54% from 2021)**. 60% of the external debt now consists of borrowings from international financial institutions and governments of countries, which are provided on preferential terms with a maturity of up to 35 years, as well as grace periods for maintenance and low-interest rates. This allows the Ministry of Finance to assert control over the financial situation in terms of deficit and debt management.

In addition to international aid, **the Ministry of Finance is issuing Wartime Domestic Government Bonds as an investment tool to support Ukraine's state budget during the difficult times of the invasion**. These bonds are available to citizens, businesses, and foreign investors. These bonds have also been purchased by the National Bank of Ukraine, up to UAH 400 bn ($11 bn) in 2022, effectively carrying out money supply creation to cover the urgent need to finance priority expenditures.

Figure 6. State debt , $ bn



Source: Ministry of Finance of Ukraine

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2023 OUTLOOK

Domestic demand will remain the main driver of GDP growth in 2023. However, growth in gross fixed capital formation will be restrained by security risks, to which investment activity is highly sensitive. At the same time, **the loss of foreign demand will harm GDP growth in 2023**. Real import growth will be high due to high levels of consumption and limited domestic production. In addition, opportunities for export recovery will be restrained by logistical restrictions and the physical destruction of the fixed assets of certain enterprises in the export industries.

The National Bank of Ukraine has improved its economic growth forecast for 2023 from 0.3% to 2.0%, citing the quick restoration of the energy system and a soft fiscal policy as contributing factors. The bank predicts no significant deficits in electricity supply, except for localized and situational deficits in the second half of the year. Additionally, increased budget expenditures supported by significant amounts of international financial assistance are expected to sustain economic activity and consumption.

However, **a substantial current account deficit is expected at $13.5 bn in 2023 according to the NBU.** This is due to increased imports in the face of gradual recovery of internal demand, expenses associated with a significant number of Ukrainian migrants forced to work abroad, and still-limited exports due to lower yields and limited logistical routes.

Tax revenues and internal borrowings are still insufficient to finance significant expenditures of the state budget in times of war and post-war reconstruction.

Financial support from partner countries and international organizations remains essential.

International support and cooperation with the IMF will help to finance a significant budget deficit, projected at 27% of GDP in 2023 according to the current law on the State Budget of Ukraine. With the announced volumes of international aid and progress in negotiations with the IMF, **the total amount of official financing required in 2023 could exceed $ 42 bn**. This will avoid money creation to finance the budget deficit in 2023 and maintain international reserves at a sufficient level, even under conditions of prolonged security risk.

The country's international reserves, which stood at $ 31.9 bn as of March 2023, are expected to continue to grow, providing a cushion against future economic shocks.

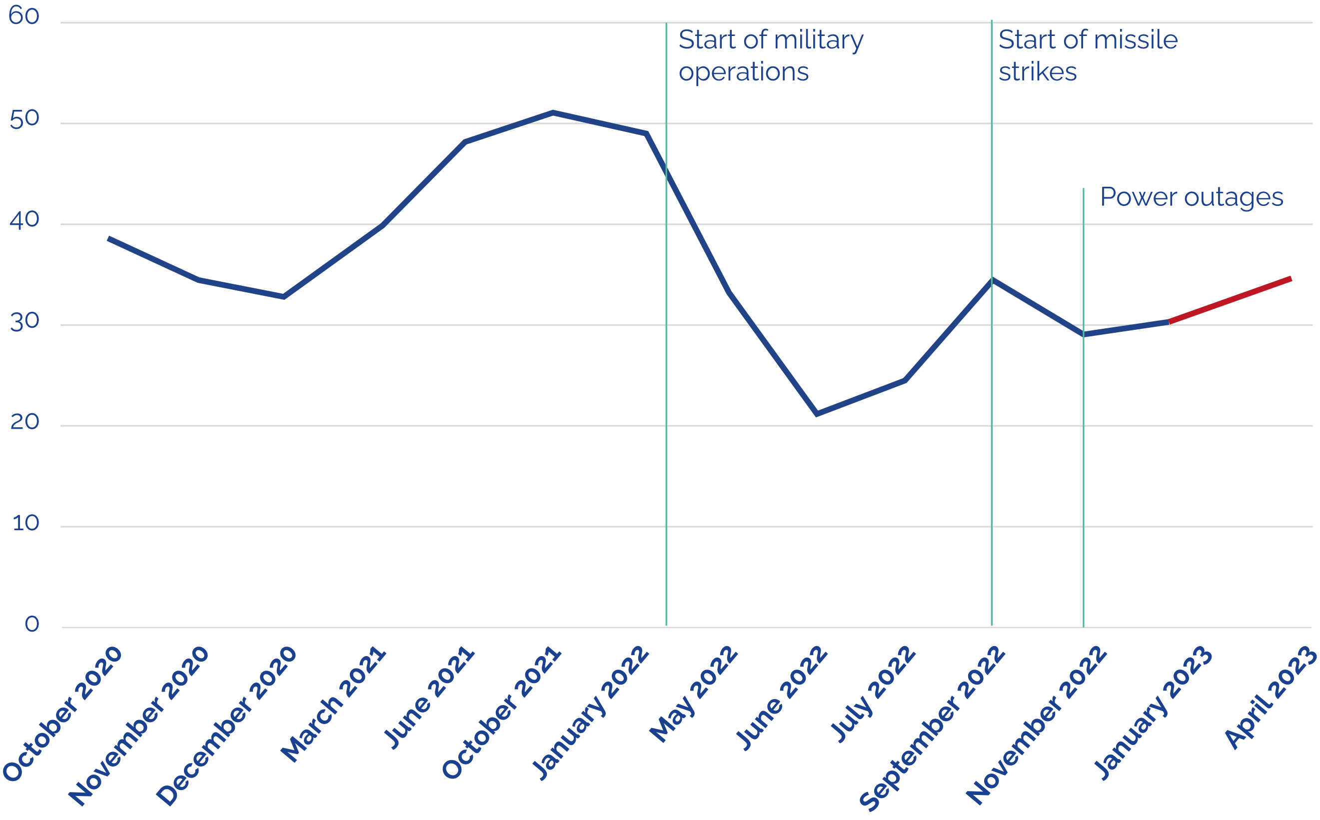
Reduction in security risks remains a key, for economical growth in 2024-25 along with the resumption of fully operational ports, increased harvests, a gradual recovery in production capacities, improved logistics and increased domestic demand, including the return of forced migrants.

02 BUSINESS ENVIRONMENT

This section contains an overview of the most competent surveys in the business sphere of Ukraine, as well as a view and analysis of business problems from the point of view of the Kyiv School of Economics

The Ukrainian Business Index (UBI) marked a score of 34.03 in April 2023 out of a possible 100, which is one-third lower than the maximum values recorded in 2021. The primary factor behind the decline in business activity continues to be the unpredictability of the situation in Ukraine after the full scale invasion. While the index has shown growth compared to February 2023 (30.76) and the local maximum in September (33.9), this upturn suggests more of a fatigue among businesses due to uncertainty and a desire to intensify rather than an improvement in the overall economic situation.

Figure 1. Business activity Index



Source: KSE Institute, Diia.Business

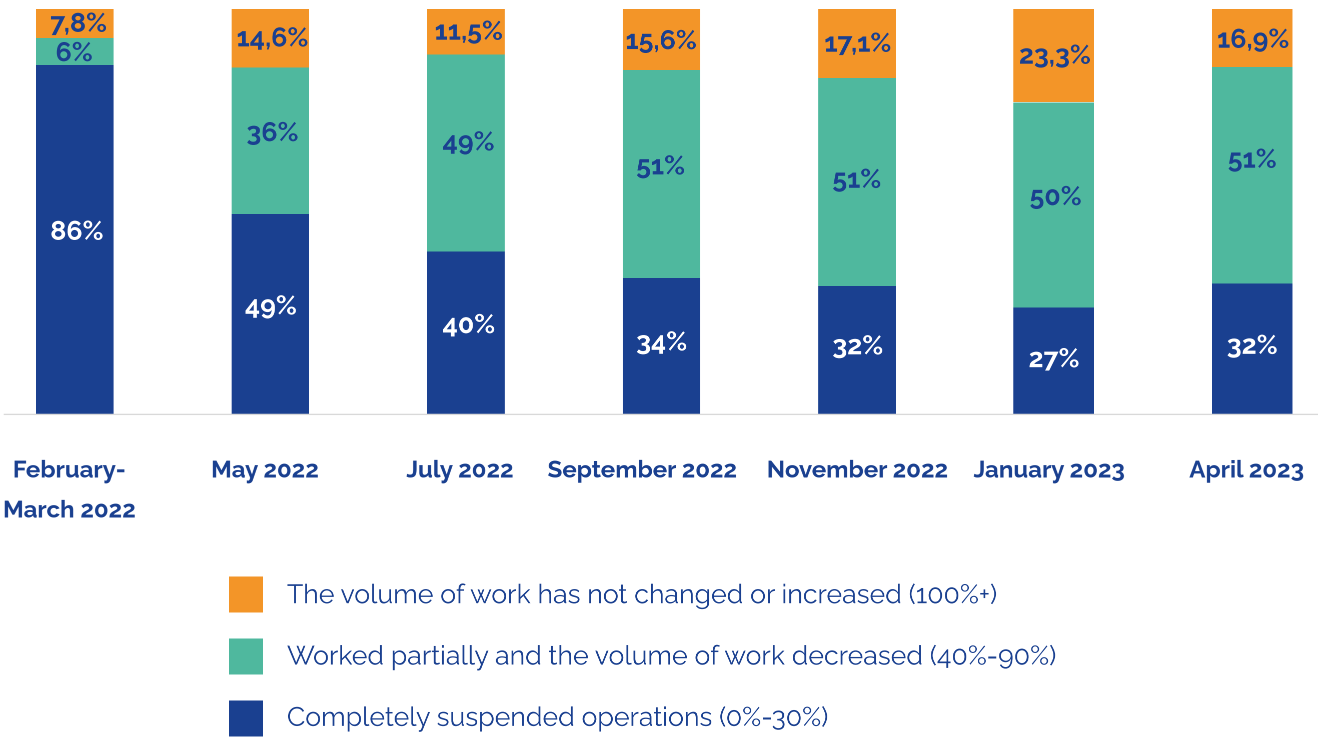
The UBI serves as an indicator of business activity and their capacity to enhance turnover and generate employment opportunities. When the index falls below 50, it signifies negative expectations from the business community regarding future developments

Small and Medium-sized enterprises (SMEs) dominate Ukraine's economic landscape, accounting for two-thirds of total value added in Ukraine and over 80% of jobs in the business sector. Thus the development of SMEs stimulate fair competition in the markets and the corresponding growth of competitiveness and innovative potential of the economy.

02 BUSINESS ENVIRONMENT

The Russian military aggression against Ukraine hit the business enormously with 86% of enterprises being either fully or partially closed down in February-March 2022. However, after the Kyiv region was cleared of the Russian army, the situation began to improve gradually. Businesses started to reopen their facilities and return to operations, aiming to adapt to the new reality. Thus the **number of suspended businesses improved from 49% in May 2022 to 32% in April 2023**. This allowed the restoration of 165k workplaces.`

Figure 2. Business activity in 2022-2023 compared to 2021

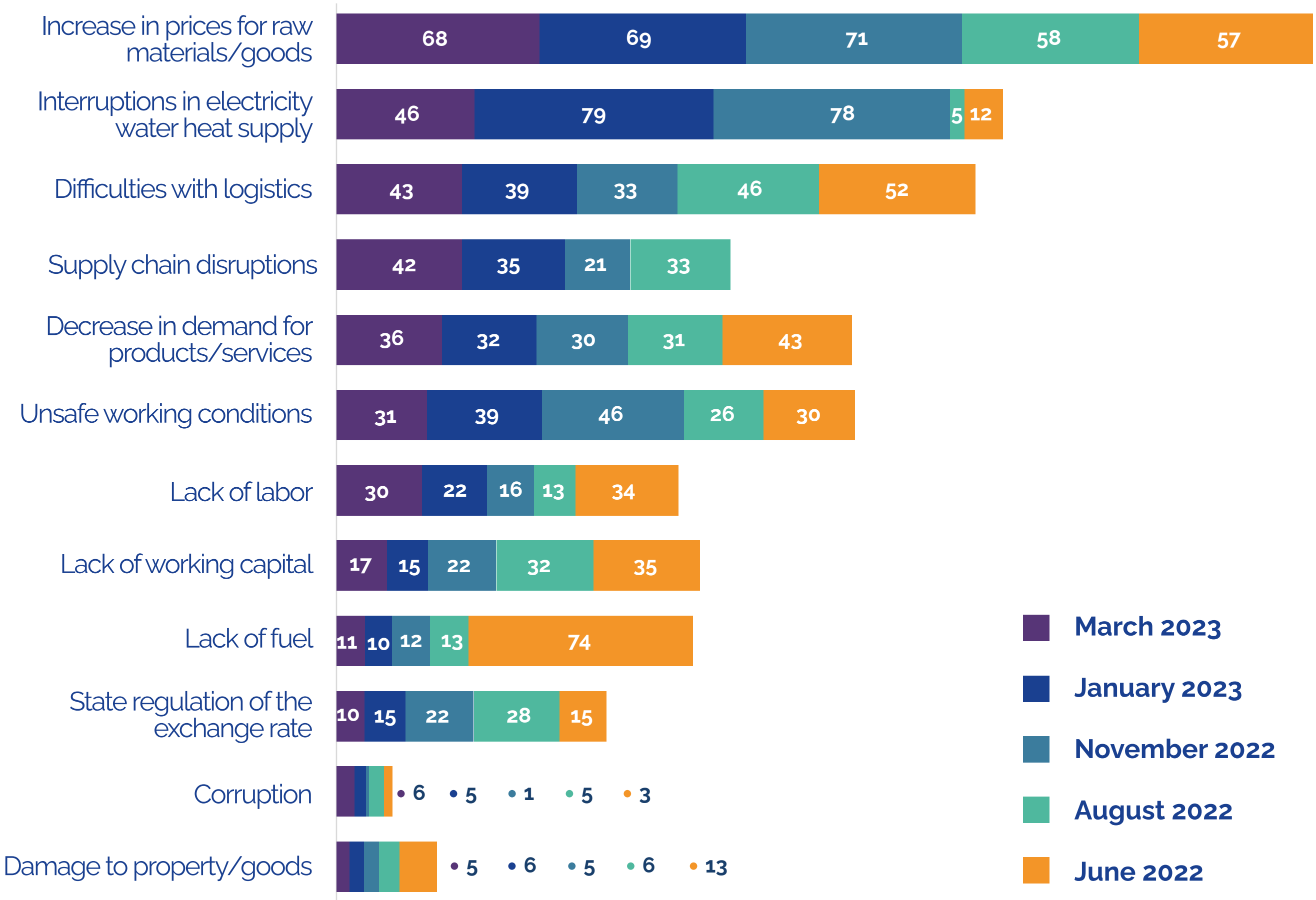


Source: Diia.Business survey, April 2023

02 BUSINESS ENVIRONMENT

Aiming to stay functional during the war time, **Ukrainian SMEs need to overcome a number of new problems and challenges including the rising prices of raw materials, goods, and services; disruptions in utility services; and logistic problems**. These three issues have been detected as the primary obstacles for more than a third of the entrepreneurs from June 2022 to March 2023, according to IER surveys.

Figure 3. Problems that hinder business recovery and development, %



Source: Institute for economic reaserach and policy consulting (IER) survey, March 2023

02 BUSINESS ENVIRONMENT

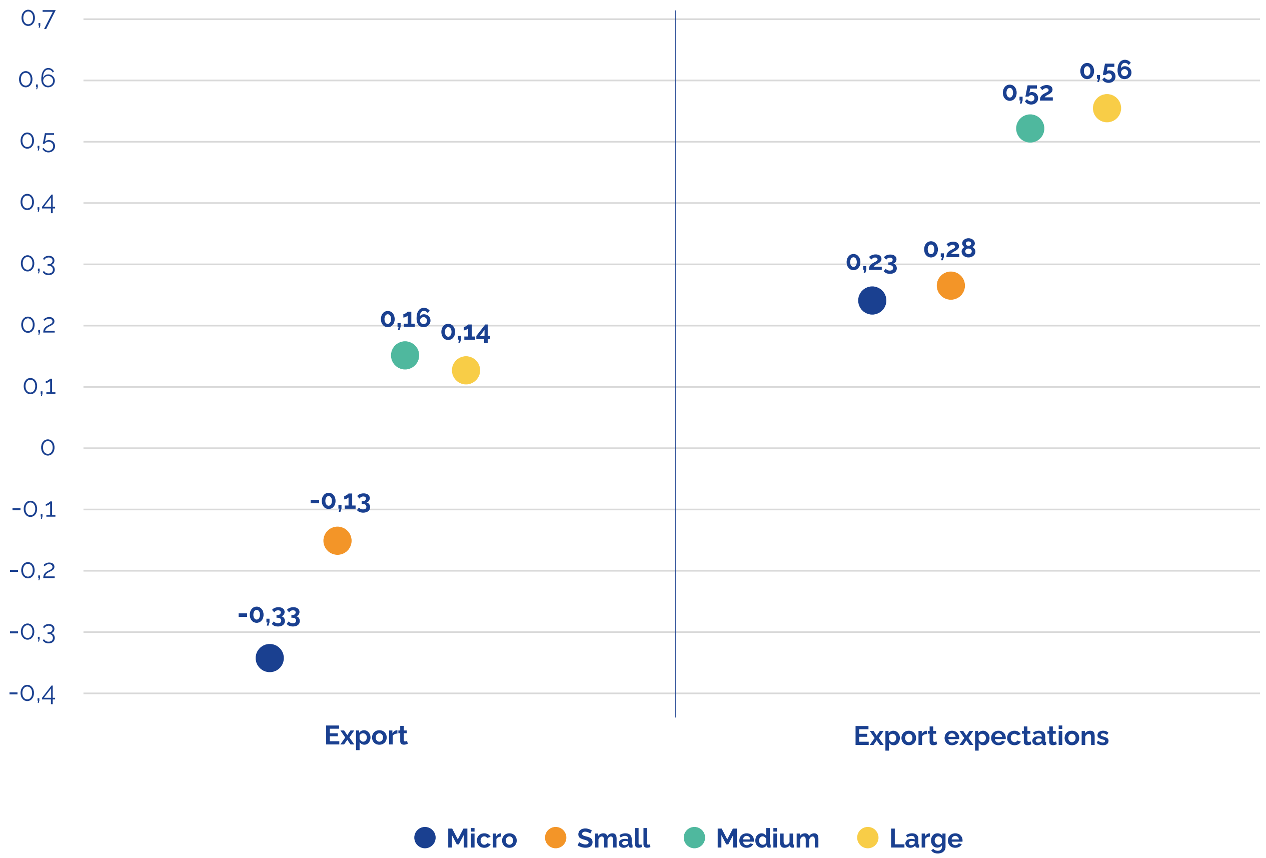
Another persistent obstacle that has shown almost no improvement over the last year is **the limited potential of local demand**, which obviously reflects the decreased purchasing power of the Ukrainian population. Thus **reorientation of their sales distribution venues toward export markets stands out as an option to foster business growth**. Nonetheless, companies venturing into foreign markets encounter various challenges. These encompass obstacles in securing orders, financial and logistical complexities, a lack of familiarity with local culture, inadequate foreign language proficiency, and insufficient expertise in international marketing and sales.

Figure 4. The main problems faced by entrepreneurs when exporting

Source: KSE Institute, Diia.Business, November 2022

However, **most of the large and medium enterprises project an enhancement in exports growth over the next three months, despite existing challenges**. This is indicated by the "Export Change Index", which gauges the percentage of enterprises anticipating an increase (positive value) or decrease (negative value) in their export share sales. Notably, the highest expectations are among owners of large and medium businesses, with figures 56% and 52%.

Figure 5. Export Change Index



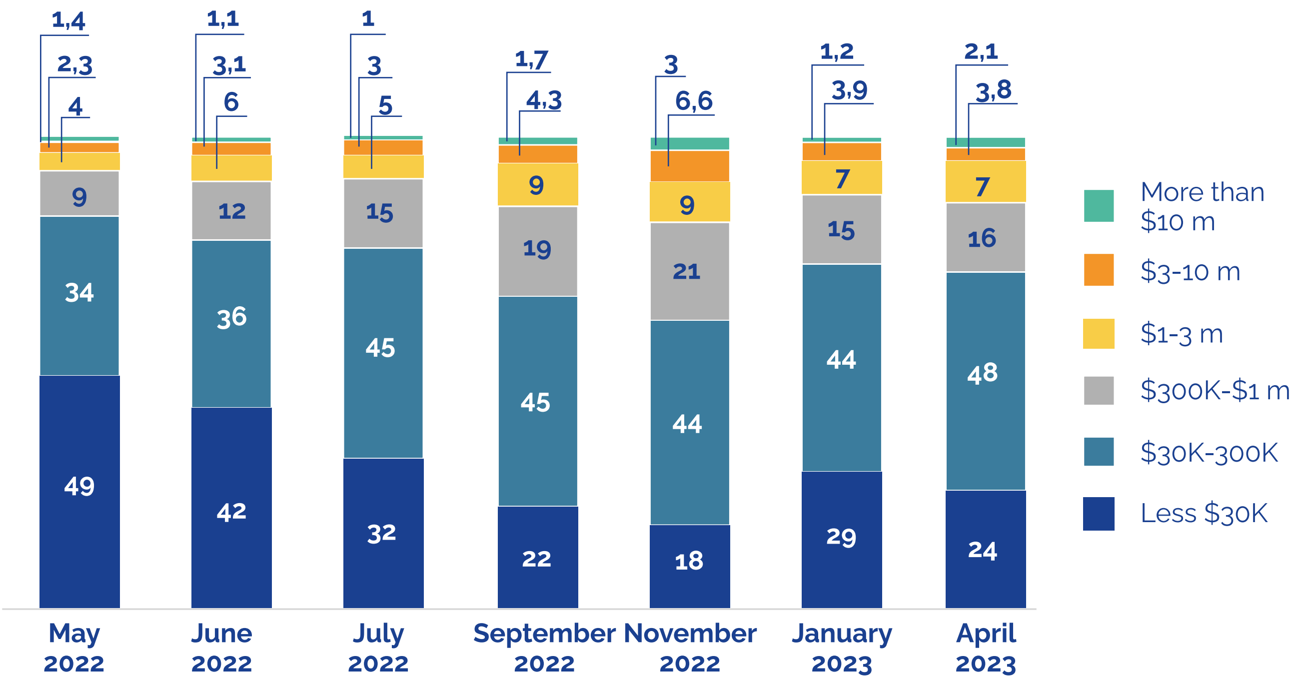
Source: Institute for economic reaserach and policy consulting (IER) survey, March 2023

Notes: A positive (negative) value of the index indicates that the proportion of enterprises that increased their exports is greater (smaller) than the number of those where exports decreased. For instance, if out of one hundred respondents, twenty reported an increase in exports, fifty reported a decrease, and thirty reported no change, the corresponding index value would be -30%.

02
BUSINESS ENVIRONMENT

Summing up, **although Ukrainian businesses managed to partially sustain their activities and even show some improvements in the new environment, easy access and availability of financing options will play a crucial role in further restoration and growth prospects in the coming years**. As of April 2023, in the Diia survey, the percentage of business respondents expressing an increased need for additional financing in the range of $30K to $300K rose from 34% in May 2022 to 48%. Conversely, the proportion of respondents who deemed less than $30K sufficient decreased by half to 24% as of April 2023.

Figure 6. Need for additional financial resources,%



Source: KSE Institute, Diia.Business, April 2023

03 AGRO SECTOR

The total damage to the Ukrainian agricultural sector was $9 bn as of April 2023, or more than 20% of its physical assets. Agricultural damages and losses continue to mount every day, surging uncertainty and agricultural outlook, driving Ukrainian farmers nearly to bankruptcy, and substantially depressing this and the next season's agricultural output, therefore, increasing concerns about global food security.

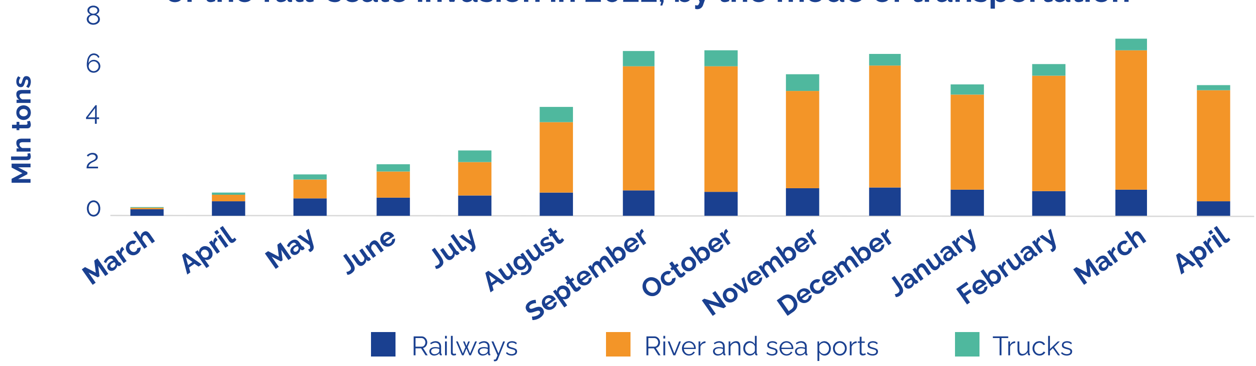
Despite high world prices, farmers in Ukraine are suffering huge losses

Over the last two decades, Ukraine has emerged as an important global supplier of grains and vegetable oil. Since the 2000s, it increased its exports of grains by more than five times and its contribution to the global grain trade from about 5% to 12-14%. A lion's share of agricultural exports (about 93%) has been delivered to export destinations in Northern Africa, the Middle East, and Europe by sea (via the ports of Kherson, Skadovsk, Berdiansk, Mariupol, Odesa, Bilhorod-Dnistrovskyi, Mykolaiv, Chornomorsk, Olviia, and Pivdennyi).

Since the first days of the Russian invasion, the Black Sea ports of Ukraine were either occupied or blocked by the Russian naval fleet, thereby triggering panic and extreme growth of international prices. In May 2022, the global wheat price spiked to $444.16 compared to $278.45 per metric ton. By April 2023, the global wheat price fell to $312.8 per metric ton, remaining nevertheless extremely high. For comparison, the last time a comparable spike was observed was in 2008 during the global economic and financial crisis.

A huge mass of exportable surpluses of grains and vegetable oil have been stuck in Ukraine's ports and in inland elevators since 2022. Alternative export routes are being developed by agricultural traders and producers. The latter includes land transportation by trucks and railways via Ukraine's western borders and via the ports on the Danube River. These alternative export routes, however, have been more expensive and with limited scope for topping up the shipments. In the course of the last months, Ukraine was able to increase its railway agricultural export shipments only to about 1 m tons per month (Figure 1).

Figure 1. Export of grains and oilseeds from Ukraine since the start of the full-scale invasion in 2022, by the mode of transportation

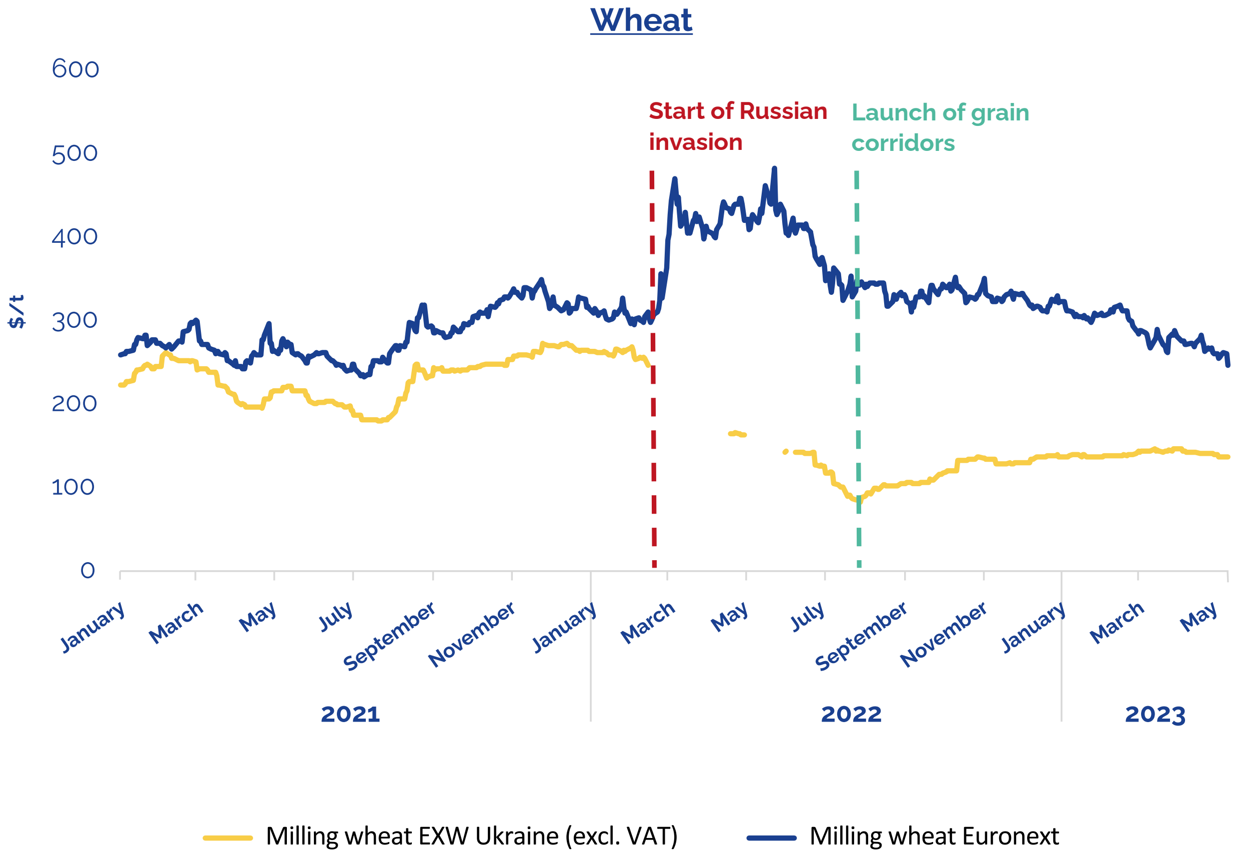


Source: Ministry of Agrarian Policy and Food of Ukraine

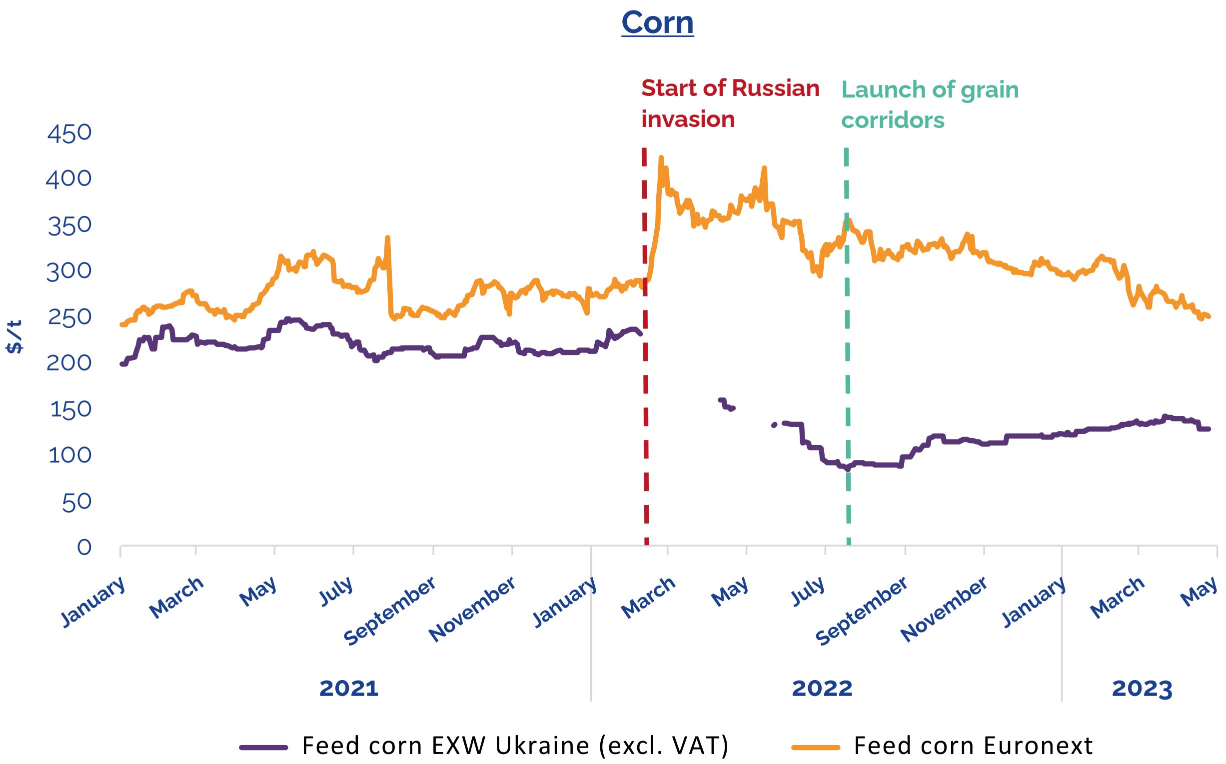
The major bottleneck is limited by the loading capacity at the railway stations. Exports by trucks have also been limited to 0.6 m tons per month, with the lines of trucks at the border stretching sometimes to more than 50 km and weekly trucks waiting time at the border, thus putting up the export costs. Respectively, the total shipment capacity of alternative routes fell substantially short of the demand and of the pre-war monthly shipments, which led to oversupplies exhausting the existing domestic storage capacities. Even with around 20% lower production volume of grains compared to 2020 (compared to 2021 - a production record year, the difference is around 36%), the quantities produced are considerably higher compared to the export capacities.

Due to more expensive and longer alternative export routes, export costs surged from the pre-war $30-40 per ton to $150-200 per ton, and thus severely depressed domestic grain prices. These simply deprived Ukrainian grains and oilseeds farmers from revenues and drove them nearly to the edge of bankruptcy (Figure 2). **The total agricultural losses associated with the war (i.e., forgone revenues and increased production costs) amounted to $34.25 bn, or close to 75% of the last year Ukraine's agricultural output.**

Figure 2. Wheat and corn prices in Ukraine and EU before and after the full-scale Russian invasion



Source: own presentation based on the UkrAgroConsult price data



Source: own presentation based on the UkrAgroConsult price data

Note: The production costs' ranges are indicative, based on the information received from the farmers and are provided only to guide a reader with respect to the expected profitability of the grain business in Ukraine.

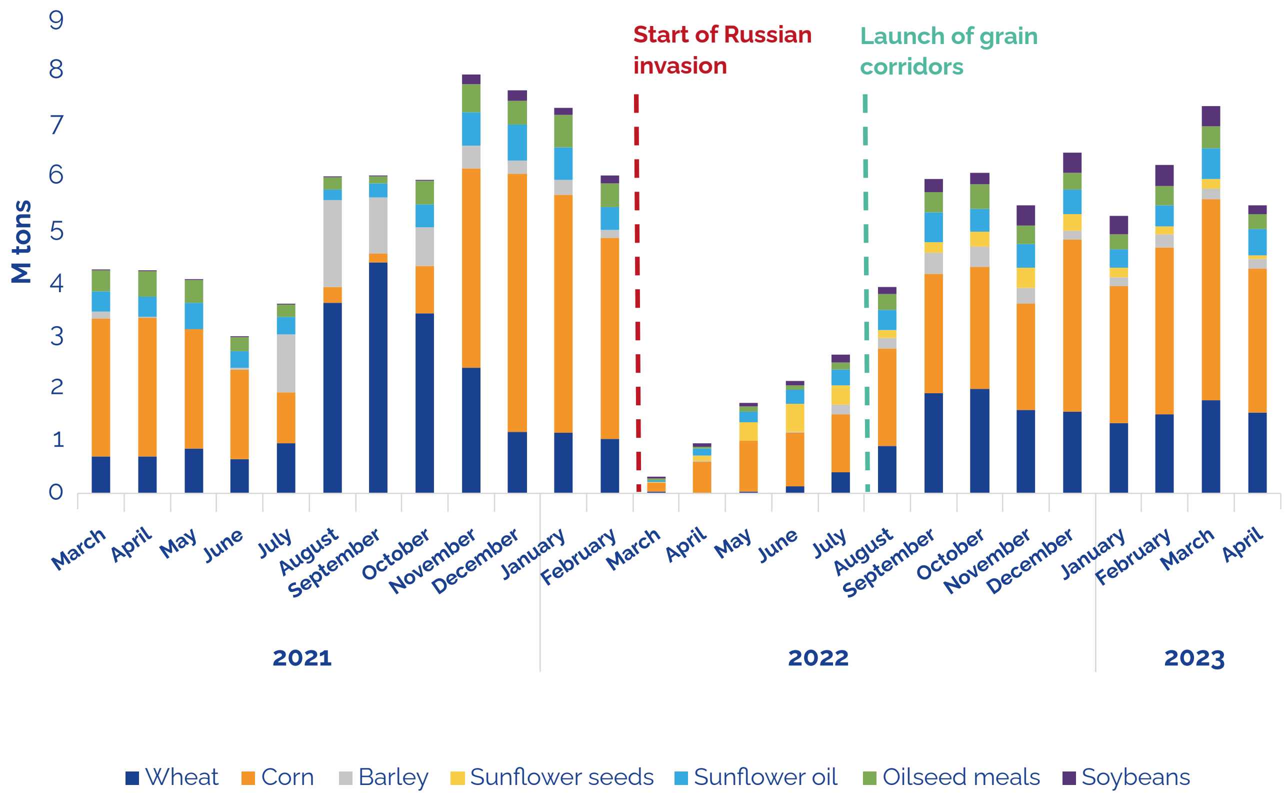
So far, the impact of the Grain Deal has been limited

Launching the Grain Deal and establishing a so-called grain corridor from the three deep-water Black Sea ports (Odesa, Chornomorsk, and Pivdennyi) allowed for a substantial increase in agricultural exports from Ukraine. However, this had only a marginal effect on domestic prices, i.e., it marginally improved farmers' incomes. The Grain Deal between Ukraine and Russia, moderated by the UN and Turkey, came into force in August when the 2022 harvest had already started. Therefore, despite monthly grains exports returning to pre-war levels (Figure 3), the supply pressure on the domestic market was not eliminated, export costs remained almost at the pre-corridor high level, and domestic prices stayed depressed and low, without any noticeable sign of closing the gap with respect to the world market prices. Moreover, the volume of shipments via the corridor first levelled off in October and then decreased in November.

The main issue of grain corridors remains the slow inspections of the ship commission in Bosphorus due to the sabotage of the Russian part of the commission. Continued accusation and questioning of the Grain Deal from the Russian side continues to undermine the security of the grain corridor. Russia attempted to suspend the Grain Deal several times, though shortly afterwards, it was back, and the Grain Deal was extended for another 120 days.

Despite the hardships with exports, **corn remains the dominant export crop due to its large stocks and proximity to the main export destinations** (primarily to the EU). The share of wheat has been gradually increasing since the start of the new season in July. Meanwhile, **the export of sunflower seeds has been relatively high, which is not typical for Ukraine**. Usually, more than 95% of the seeds are crushed and exported as oil and meal. The main reason for this year's sunflower seed export is the relatively high export price. Selling it to local crushers was less profitable than exporting it, even with considerably increased transportation costs and railway tracks congestion at the western borders.

Figure 3. Export of grains and oilseeds from Ukraine before and after the full-scale invasion of Russia

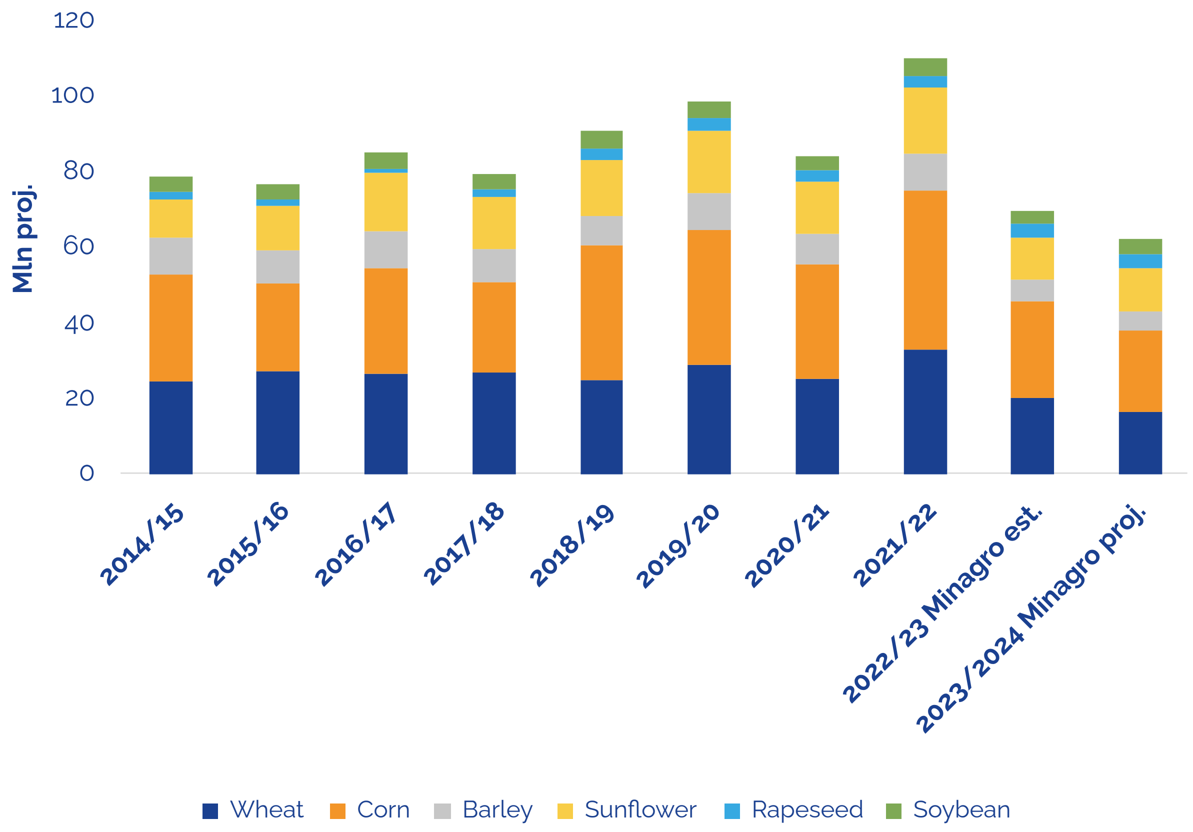


Source: State Statistics Service of Ukraine

Future perspectives and continued threats

According to the Ministry of Agrarian Policy and Food's estimations, **Ukraine produced about 70 m tons of wheat, barley, corn, sunflower seeds, rapeseeds, and soy in the 2022/23 season, or 36% down from the level in the previous season. As for the new crop in the 2023/24 season, it is estimated at only 62 m tons**. The main reason for this decline is the decrease in planting areas for grains (mostly corn) and increase in oilseeds plantings. Such a shift can be explained by high prices and lower yields of oilseeds that make them more suitable for exporting. The change in production structure will result in low export of milling wheat, which is needed for poorer countries. At the same time, the capacity to replace the expected missing wheat exports from Ukraine to the world is limited.

Figure 4. Production of grains and oilseeds in Ukraine



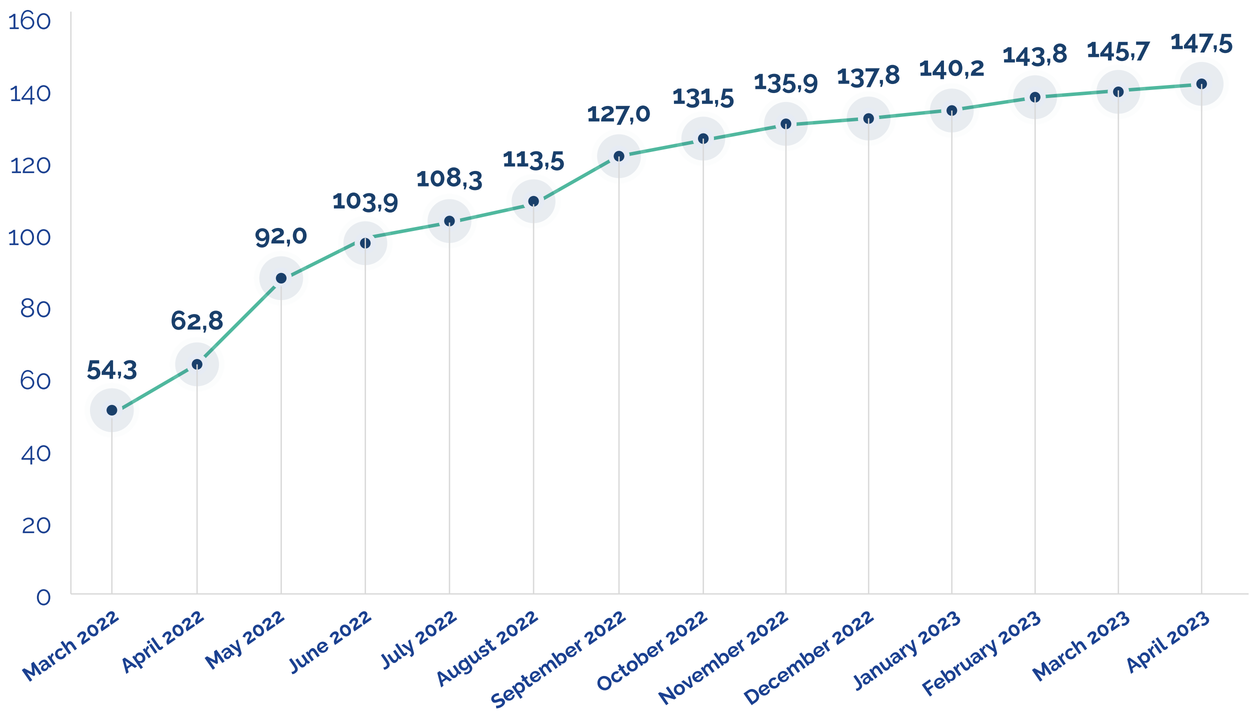
Source: USDA, Ministry of Agrarian Policy and Food

«RUSSIA WILL PAY» PROJECT

Since the onset of full scale invasion on February 24, 2022, **the assessment of damages, losses, and needs has been implemented and regularly conducted by the KSE Institute**, the analytical unit of the Kyiv School of Economics. This assessment is carried out with the support of the Office of the President of Ukraine, the Ministry for Communities, Territories and Infrastructure Development of Ukraine, the Ministry of Economy, the Ministry for Reintegration of the Occupied Territories, and other government bodies. The assessment utilizes internationally recognized methodologies developed by the World Bank and the United Nations for the purpose of comprehensively analyzing the economic impact on countries that have suffered from war or natural disasters.

As of April 2023, marking the 14th month of the full-scale war, **the total amount of direct documented damages caused to Ukraine's infrastructure due to Russia's full-scale invasion has reached $147.5 bn (at replacement cost)**. The slowdown in the growth of the damage value observed during the last months of the war is attributed to the success of the Ukrainian army in 2022 in liberating its territories, resisting the advance of the Russian army in the eastern regions, and reducing the number of long-distance attacks by Russian missiles and drones.

Figure 1. Direct damages growth dynamics as of April 2023, $ bn



Source: KSE Institute

Figure 2. Direct damages breakdown by sectors as of April 2023, $ bn

Source: KSE Institute

Based on the findings from April 2023, **the damage to the housing stock has amounted to $54.4 bn**. Nearly 158 K residential buildings, covering an area of almost 86 m square meters, including both private and apartment buildings, have been either damaged or destroyed.

The amount of infrastructure damage has stabilized at $36.2 bn. According to the Ministry of Infrastructure of Ukraine and open source information, over 25 thousand roads, 344 bridges, at least 19 airports, and 126 train stations have been damaged or fully destroyed during the 14 months of war.

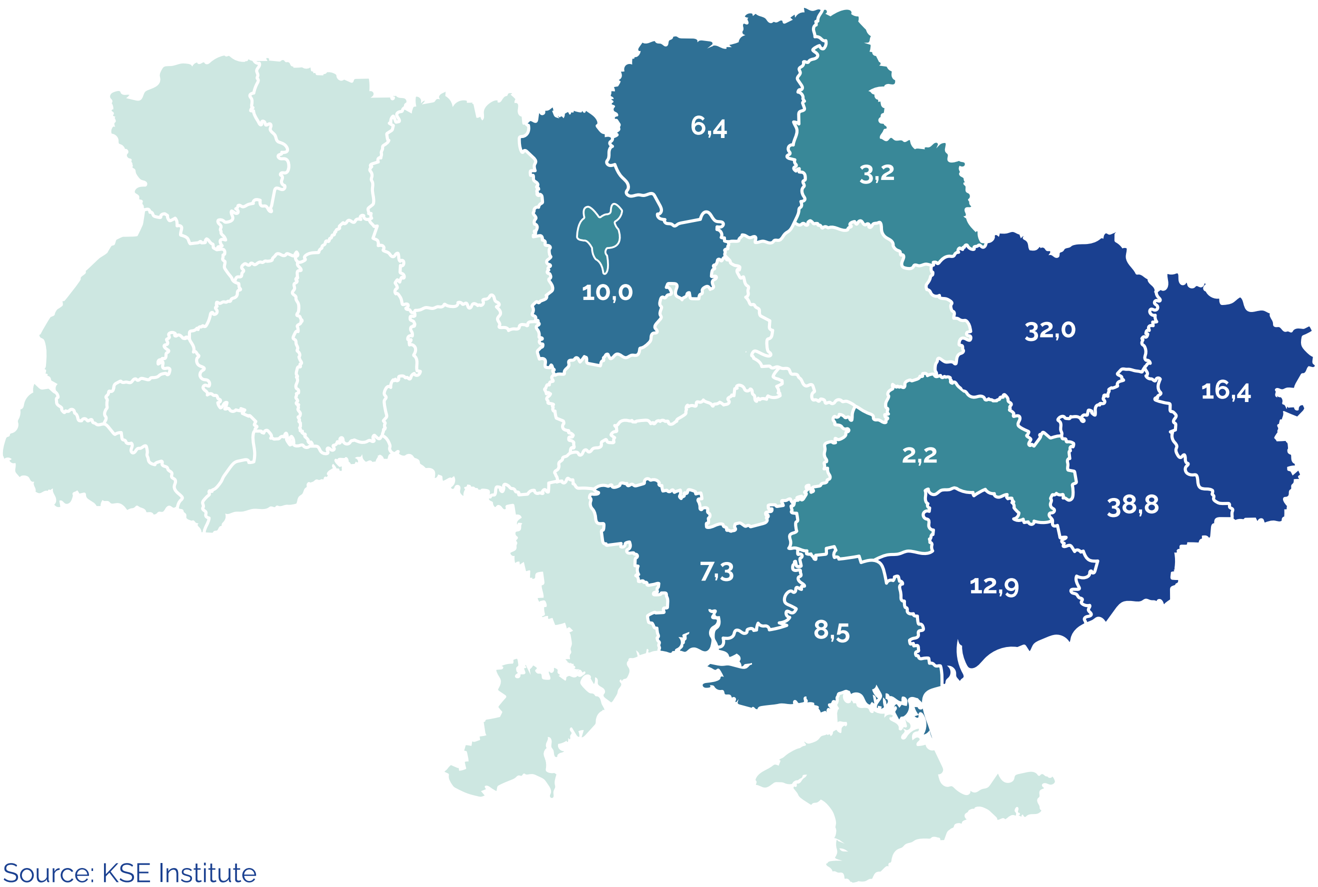
The damage inflicted on the education sector has reached $9.1 bn. As of April 2023, the total number of damaged and destroyed educational facilities has reached 3.2 K, including more than 1.5 K institutions of secondary education, nearly a thousand preschools, and 538 higher education institutions. The healthcare sphere has incurred damages amounting to $2.7 bn. A total of 806 buildings, including 367 hospitals and 341 dispensaries, have been destroyed or damaged as a result of the war.

The damages suffered by large industrial assets, medium-sized, and small enterprises are estimated at $11.4 bn. The complete destruction of large metallurgical enterprises in the Donetsk region accounts for the largest share of the damages.

04 DAMAGES

The geographical distribution of the damages corresponds to the severity and duration of the conflicts in each region. Donetsk, Kharkiv, Luhansk, Mykolaiv, Zaporizhzhya, Kyiv, and Chernihiv regions have been most heavily affected by the war due to hostilities and shelling. Among the cities that have suffered the most during the war are Maryinka, Mariupol, Irpin, Kharkiv, Chernihiv, Severodonetsk, Lysychansk, Vugledar, Sumy, Rubizhne, Izyum, Mykolaiv, Bakhmut, and Volnovakha. As of today, some of these cities have been completely devastated.

Figure 3. 10 most affected regions, $ bn



Source: KSE Institute

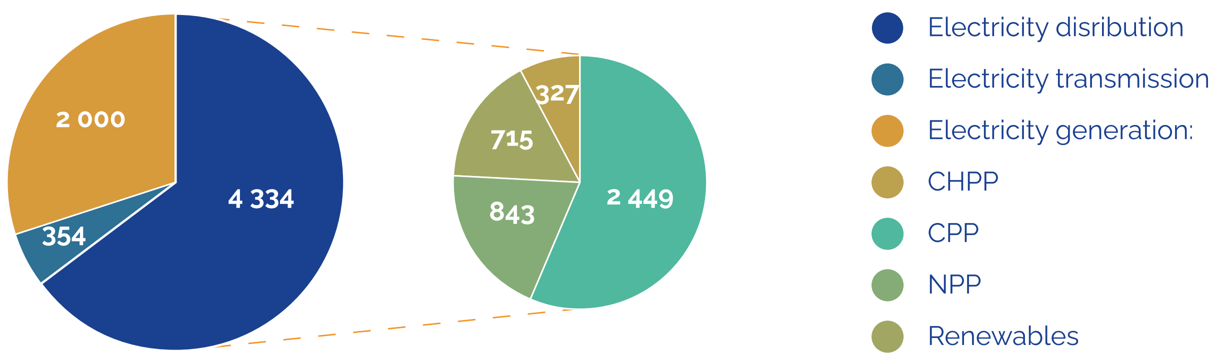
The complete and up-to-date reports, as well as interim releases, of the damage assessment are always accessible on the KSE website. You can find them by visiting the following link: **https://kse.ua/ua/russia-will-pay/**

04 DAMAGES

The damages inflicted on Ukraine's energy infrastructure by April 2023 were estimated at $8.3 bn. The initial targets of the attacks were facilities involved in the refining and storage of oil and petroleum products, with the aim of disrupting logistics, including military operations. Following a series of Russian defeats, starting from October of the previous year, Russia has launched targeted and large-scale attacks on Ukraine's power infrastructure, intending to instill terror among millions of civilians. Since February 24th, Russia has launched over 1400 missiles and drones, targeting Ukraine's energy infrastructure.

According to the Minister of Energy of Ukraine, **approximately 50% of the energy infrastructure has been damaged due to shelling**. By the end of February 2023, nearly 5 GW of generating capacity were rendered unavailable due to destruction, accounting for almost one third of the peak demand. Since February 2022, approximately 16 GW have been occupied. The damages incurred in the production, transmission, and distribution of electricity by April 2023 were estimated at $6.7 bn.

Figure 4. Direct infrastructure damages to power sector, $ m



Source: KSE Institute

04 DAMAGES

According to public statements, since the beginning of the invasion, all thermal power plants (TPPs), hydroelectric power plants (HPPs), and 13 combined heat and power plants (CHPPs) under Ukraine's control have been affected. Furthermore, the Zaporizhzhia Nuclear Power Plant (Zaporizhzhia NPP), the largest nuclear power plant in Europe, which previously accounted for over 10% of Ukraine's energy capacity, is still occupied by the Russian military. It is important to note that the occupied nuclear power plant is not injecting electricity into the grid and relies on the Ukrainian energy system and diesel generators for its internal needs during emergencies. The International Atomic Energy Agency and the Ministry of Energy have expressed concerns about the nuclear safety situation.

Additionally, the territories where the Vuhlehirsk, Zaporizhzhia, and Luhansk thermal power plants are located have been occupied by the Russian Federation since February 24, 2022. Intense battles are ongoing around the Kurakhivska thermal power plant. The Kakhovska hydroelectric power plant has also suffered significant damage from deliberate shelling and remains under occupation.

The active combat operations in many parts of Ukraine, along with targeted and massive shelling from Russia, have resulted in damage and destruction of electricity transmission and distribution facilities. The estimated damages inflicted on the Electricity Transmission System Operator due to the full-scale invasion amount to $2 bn, while the distribution system operators have incurred damages exceeding $350 m.

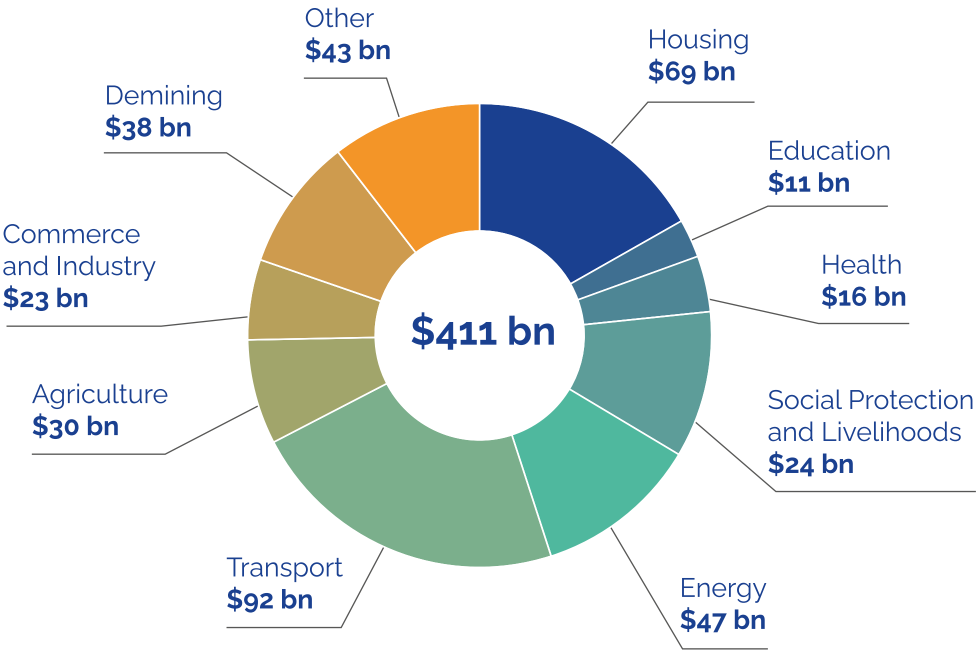
According to the World Bank, **Ukraine requires nearly $47 bn to rebuild and recover in the energy sector, including approximately $5.7 bn for the next few years**. The priority for the 2023/2024 winter season should be the restoration of electricity supply for millions of Ukrainians and essential infrastructure such as heating, clean water, and security. **The immediate cost for addressing these needs is approximately $2.1 bn**.

05 RECOVERY

Ukraine presented a Recovery and Development Plan in Lugano in July 2022, which outlines the country's needs for the 2022-2032 period of reconstruction. The plan is **estimated to cost $750 bn** (excluding funding for security and military expenditures) and aims **to achieve an annual GDP growth of over 7%**. To finance the costs of defense and social support for the population, which have increased due to unprovoked aggression and the war with Russia, Ukraine needs to double its GDP over the next 10 years, reaching more than $285-350 bn.

The total recovery and development plan figure includes the required financing for building back better to the prewar normality through activities such as repair and restoration. The first part of the required financing has been lately assessed by the World Bank team. According to the assessment of the World Bank (RDNA2), conducted jointly with the Government of Ukraine, the European Union services, and the United Nations and in coordination with the Kyiv School of Economics **the updated estimate of the recovery needs for Ukraine, based on the latest published report in March 2023, are projected to reach$411 bn.**

Figure 1. Direct needs



Source: World Bank

The highest estimated needs are in transport (22%), housing (17%), energy (11%), social protection and livelihoods (10%), explosive hazard management (9%), and agriculture (7%). These needs are mainly focused on projects, the implementation of which will restore the socio-economic condition of Ukraine to the pre-war level. However, this amount does not cover the need for additional growth of the Ukrainian economy.

The war is ongoing, so the priority recovery needs numbers are changing with every additional missile attack and fighting damages. We should remember the actual needs in reality are much higher and probably include additional sectors.

05 RECOVERY

KSE analysts identify a number of priority sectors for the development of the Ukrainian economy, which have investment attractiveness for private capital and will ensure rapid economic growth, creating a multiplier effect in other sectors of the economy. These sectors include green energy, green metallurgy, agro-industrial complex, logistics infrastructure, civil and social construction, high technology and science (including military tech), digital transformation, environmental protection, critical materials, engineering, healthcare and pharmaceuticals. Additional investment needs triggered by Ukrainian development strategy goals were estimated at over $500 bn in the next 20 years.

Ukraine has identified five priorities for recovery at this stage:

1. **Reconstruction of housing.** This is an urgent problem to provide refugees and settlers with homes.

2. **Energy sector recovery.** The key power supply capabilities have been recently restored, but there is still a need to repair the destroyed infrastructure.

3. **Demining.** There is a risk that around 174 K sq km of territory may be mined.

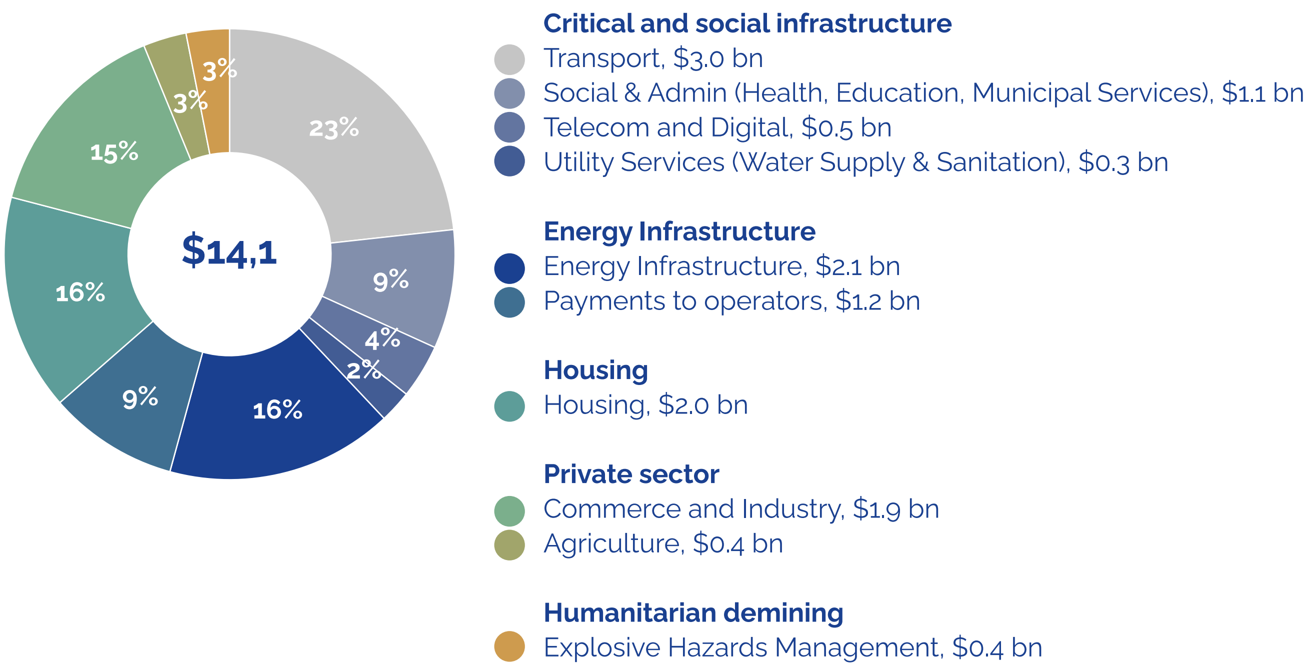
4. **Social and critical infrastructure.** Such investment includes repairing and restoration of transport infrastructure (roads, bridges, railways), municipal, educational, and healthcare facilities, etc.

5. **Economic support for business restoration, creating conditions for its functioning.** This support includes a combination of grants and subsidized credit along with guarantees and insurance instruments to de-risk private

05 RECOVERY

The World Bank also estimates Ukraine **will need $14 bn for critical and priority reconstruction and recovery investments in 2023**. This $14 bn reflects 2023 investments in government-prioritized sectors. Total 2023 implementation needs across all sectors is $18 bn.

Figure 2. 2023 implementation priorities



Source: World Bank

$3 bn is included in the state budget, thanks to international partners' support. Financing for the remaining $11 bn must be found, including $6 bn in unfunded budget needs and another $5 bn in financing to support state-owned enterprises (SOEs) and catalyze the private sector.

Possible sources of additional funding for the reconstruction projects of Ukraine

Figure 3. General ways to source total financing needs

Bilateral aid from the governments of different countries	Physical contributions, etc.
International Institutions - existing (WB, EBRD, EIB, IMF, etc) and new ones	Mostly in the form of loans
European Union	Targeted financing, financial aid, institutional reform
Private sources	Private funds, diaspora, etc.
Confiscated russian assets	International reserves, National Wealth Fund, russian state and private assets
Receipts from russian oil and gas supply	Taxation, special fees, etc.
Grants, credit guarantees, loans	

Several initiatives have already been approved to help Ukraine find solutions and rebuild the country.
At the international level, on February 26 in 2023, Ukraine, the EU, the G7 countries, and international financial organizations established **the Multi-agency Donor Coordination Platform ("Financial Ramstein").**

This initiative was launched to coordinate existing and new mechanisms to support Ukraine's budget, as well as to aid in rapid recovery and reconstruction. It will allow for close coordination among international donors and international financial organizations, ensuring that support is provided in a coherent, transparent, and accountable manner.

The platform is co-chaired by Serhii Marchenko, the Minister of Finance of Ukraine; Mike Pyle, the Deputy National Security Advisor for International Economics for the United States; and Gert Jan Koopman, the Director-General for Neighborhood and Enlargement for the European Commission.

The main priorities of the Platform include:
• Coordination of economic support for Ukraine's urgent financing needs to ensure predictable, rhythmic budget support in 2023 and beyond;
• Planning and ensuring the start of sustainable and inclusive recovery, including finding resources for priority areas of funding:
• Energy recovery;
• Recovery of destroyed housing and critical and social infrastructure; • Demining.
• Provision of economic assistance to stabilize the economy (primarily the private sector) and development of financial instruments for its support.

05 RECOVERY

At the national level, funding for the restoration efforts will come from the newly established **Fund for the Liquidation of the Consequences of Armed Aggression**. This special fund of the state budget covers a significant part of the recovery needs of the country:

- Construction of public buildings and shelters;
- Reconstruction and repair of critical infrastructure facilities, housing for internally displaced persons, and for individuals who lost their homes as a result of hostilities.

The sources of the fund include:

- Funds seized from the aggressor;
- The profit of the National Bank of Ukraine;
- Funds from partners and international financial organizations (there is a political agreement with Ursula von der Leyen on EU assistance in the amount of EUR 1 bn. The United States will provide $1.5 bn, which has already been approved by Congress);
- A system is being established to direct funds received from the confiscation of assets of sanctioned persons to recovery needs.

Also, **the State Fund for Regional Development** will be used to finance recovery projects. Currently, the budget of Ukraine for 2023 provides only $0.05 bn. The funds can be directed to the implementation of investment programs and regional development projects.

At the state level, in addition to the existing government units specializing in recovery, **the State Agency for Reconstruction and Development of Infrastructure of Ukraine** was created. In 2023, this agency will focus on the restoration of energy infrastructure, roads and bridges, housing, and social infrastructure facilities in 11 regions, and will further expand to the entire country.

The global community is putting a lot of effort into replenishing such a source of funding for the recovery of Ukraine as Russian assets:

- There is already a first precedent – the USA will transfer the money confiscated from a Russian oligarch toward aiding Ukraine. The US Attorney's Office is planning to transfer $5.4 m, confiscated from the Russian oligarch Konstantin Malofeev, to the State Department for their direction in the recovery of Ukraine.
- The EU Working Group will carry out a legal, financial, economic, and political analysis of the possibilities of using frozen Russian assets for the reconstruction of Ukraine. Part of the preparatory work will involve obtaining a clearer picture of where Russian state-owned assets are located and their total value. The work will be carried out in close cooperation with the Freeze and Seize Task Force, led by the European Commission.

05 RECOVERY

The Government of Ukraine is actively working to attract private investment in the recovery of the country:

- A Memorandum of Understanding was signed between the Ukrainian government and the international financial group BlackRock, ($8 tr under management). According to previous agreements, BlackRock has been working for several months on the project of structuring Ukraine's recovery funds, with the aim of attracting more foreign investment to the country.
- The J.P. Morgan investment company ($4 tr under management), will also join the group of advisers and representatives of the financial and investment sector. A memorandum was also signed with J.P. Morgan, and agreements were reached on the use of a number of financial mechanisms that will allow Ukraine to attract spot financing in the near future, particularly from the US Treasury.
- It was announced that the project finance infrastructure concept, created jointly with experts from BlackRock and J.P. Morgan investment banks and the McKinsey consulting company, will be presented in the next month or two.

The AdvantageUkraine investment platform is now active, thanks to the support of the USAID Competitive Economy Program (CEP) in Ukraine. This platform **unites investment projects and opportunities in essential sectors of the economy, with a total potential of more than $400 bn**. Investors are interested in opportunities in innovation and technology, the agro-industrial complex, infrastructure and logistics, as well as the energy sector and the defense industry.

To insure war risks, Ukraine is cooperating with the American International Development Finance Corporation (DFC), which recently announced its readiness to mobilize more than $1 bn to support Ukraine's economy and has a special mandate from the US government to cover war risks. AdvantageUkraine is currently accumulating a pipeline of projects in Ukraine for DFC insurance.

06
PUBLIC PROCUREMENT

The state procurement in Ukraine has been associated with corruption for quite a long time. According to estimates, **losses in public procurement were up to 40%, of which about 20% were due to corruption and about the same amount due to the low level of professionalism of those responsible for procurement**.

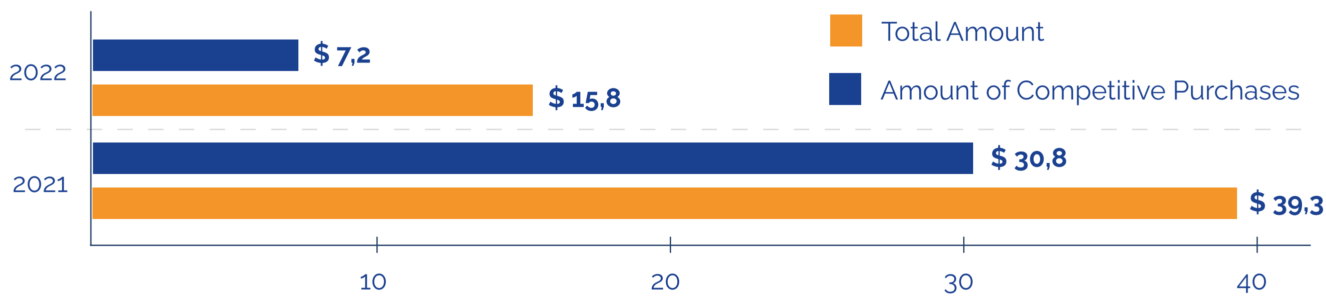
In 2016, a reform in the field of procurement took place in Ukraine, thanks to which procurement is carried out in an electronic format through the Prozorro electronic procurement system, built on the principle of "everyone sees everything" at all stages of the procurement process.

It is also important to note, **the Law "On Public Procurement" aims to be adapt with the acquis of the European Union** for the implementation of the Association Agreement between Ukraine and the European Union. Ukraine has already achieved significant results in this area and received a positive assessment from the EU side as well as from the European Commission, which was stated in number of EU reports, including the Conclusion to the Analytical Report dated February 1, 2023 regarding Ukraine's application for membership in the European Union.

Since the implementation of electronic procurement, the amount of savings has amounted to $6.4 bn or about 7.5% of the expected cost of procurement. **The annual volume of purchases in Ukraine over the last four years stood approximately at 18% of the country's GDP**, which demonstrates how important purchases are in the country's economic life.

Since the beginning of the full-scale invasion of the Russian Federation in Ukraine, the **Government was forced to introduce simplified procurement rules**, temporarily canceled auctions and established a wide list of exceptions when procurement can be carried out without using the system, in particular, these are defense procurement, procurement of tangible property and food for military personnel, etc. This policy has affected the volume of purchases made through the Prozorro electronic system. So, in 2022, **the volume of purchases decreased by 54% in terms of quantity and by 40% in terms of value**. In addition, there is a decline in the use of competitive procurement procedures by almost two times. In 2022, 2,8m purchases were completed. The total amount is $15,8 bn. Including competitive purchases, $7,2 bn was made (this is about 46% of the total cost of completed purchases).

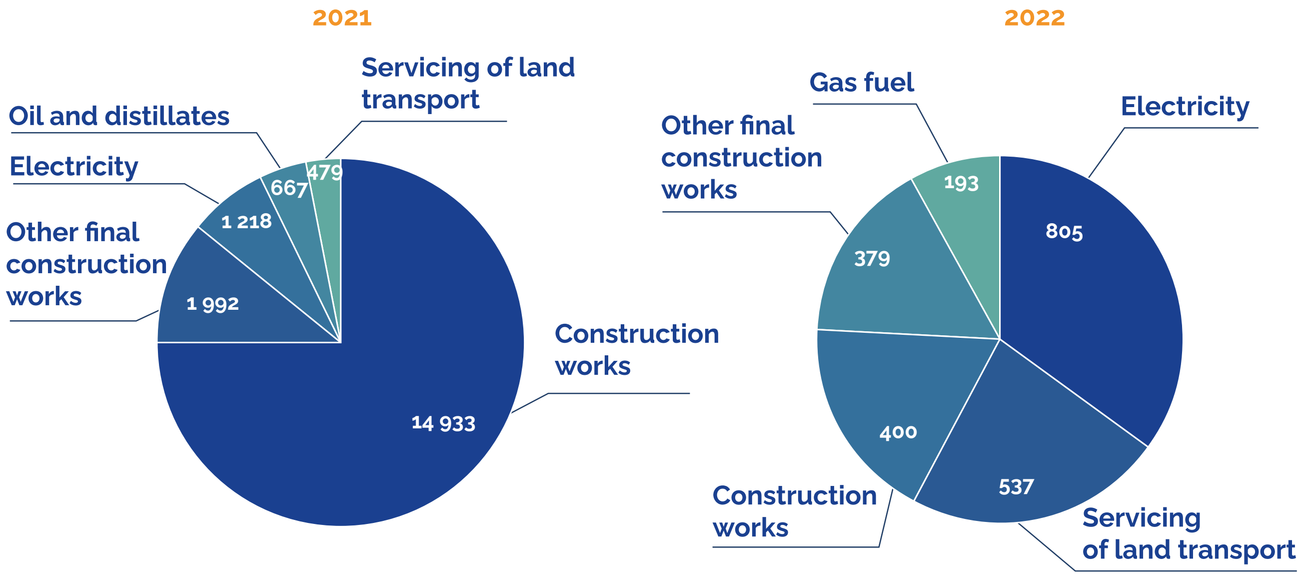
Figure 1. The amount of public procurement in Ukraine, $ bn



Source: BI Prozorro, KSE Institute

There was also a change in the TOP-5 largest volumes of purchases compared to the previous year. **During 2022, the most purchased were electrical energy, ground transportation services, works (construction, major repairs, current repairs, etc.) and gas fuel.**

Figure 2. Top 5 procurement categories, $ m



Source: BI Prozorro, KSE Institute

Despite the adoption of procurement policies tailored to the realities of martial law, it is evident that transparency, openness, convenience, and understanding must continue to be demonstrated. **The Prozorro electronic system has already embarked on the process of transformation and adaptation to the procurement rules of the World Bank, while the government is actively working on finding solutions to reduce the number of purchases made outside of the electronic system and to enhance the transparency and efficiency of the procurement process.**

Our CEP KSE team provides support to the Government in improving procurement legislation, interactive tools and development of professional programs aimed to helps buyers to be more efficient and get better results in procurement.

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