MONTHLY OVERVIEW

UKRAINIAN ECONOMY IN WAR TIMES: 2022 IN REVIEW

CENTRE FOR ECONOMIC STRATEGY

GET German Economic Team

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The **Centre for Economic Strategy** (CES) is an independent research agency on public policy issues. The mission of the CES is to support reforms in Ukraine to achieve sustainable economic growth. The Centre contributes to the development of Ukraine's economic growth strategy, performs an independent analysis of the most critical aspects of national policy, and works on strengthening public support for reforms. It was established in May 2015.

Our principles:

- Economic freedom (liberalisation, deregulation, privatisation)
- Free and fair competition
- Reducing the role of the state by improving its effectiveness
- Information transparency and freedom of speech
- The rule of law and the protection of private property
- Healthy and stable public finances
- Knowledge-based economy

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MESSAGE FROM THE DIRECTOR OF CES

In 2022, the year of Russia's full-scale war against Ukraine, all the strengths and weaknesses of the Ukrainian economy were vividly demonstrated.

Many of the strengths were the result of reforms carried out over the previous eight years. The unexpected resilience of the banking system. The ability of the government and the National Bank to maintain macroeconomic stability under extremely difficult conditions. The ability of reformed state-owned enterprises, such as Ukrzaliznytsia and Ukrposhta, to take the initiative and use their scale for large projects, supporting citizens and businesses.

And, of course, the power of private initiatives. In March, after only a few weeks of shock, businesses began to resume operations despite the shelling. By September, almost all of them did so on the territory not affected by hostilities and occupation. And even Russia's terrorist attacks on energy infrastructure since October have not stopped the desire to work and earn money. Generator orchestras on the streets are complemented by real orchestras, which continue to play for their listeners by candlelight.

But weaknesses have also appeared. The populist actions of many governments, the desire to spend more from the state treasury than to collect for it, left the state budget not only without a "rainy day fund", but with heavy debts. The distrust of citizens and businesses in the government, built up over decades, even now drives them to give money to volunteers rather than pay taxes honestly. And even the President has never once during the war called to support the Armed Forces of Ukraine by paying taxes in full. All this makes Ukraine too dependent on international financial assistance.

If 2022 was the year of quick responses to extremely difficult challenges, 2023 will be the year of decisions for a long-term future.

We hope that the delays in the summer will not be repeated, and a rapid recovery will begin in the spring with the help of international partners to return people and jobs to the de-occupied territories. The next winter should be stronger than the winter of 2022/23, not weaker.

Ukraine will need to understand where many millions of refugees and internally displaced persons are now and where they will live and work after the victory. Which businesses will remain in less secure regions, and which will move production to other areas? There will be a big discussion about incentives for private investment and the first steps will be taken – from risk insurance to a large-scale tax reform that will not be limited to tax cuts.

But the main achievement should be trust. In the judicial system, in the cleansing of which it will be necessary to pass a critical threshold. In public spending, where it will be impossible to allow old practices to continue behind the fog of opacity under the pretext of war. In the national currency, which has held up better in this war than in any previous economic crisis.

Only on the basis of trust can Ukraine regain its human capital and attract the investments needed to rebuild its physical capital. Together they can give a boost to the Ukrainian economy after the victory.

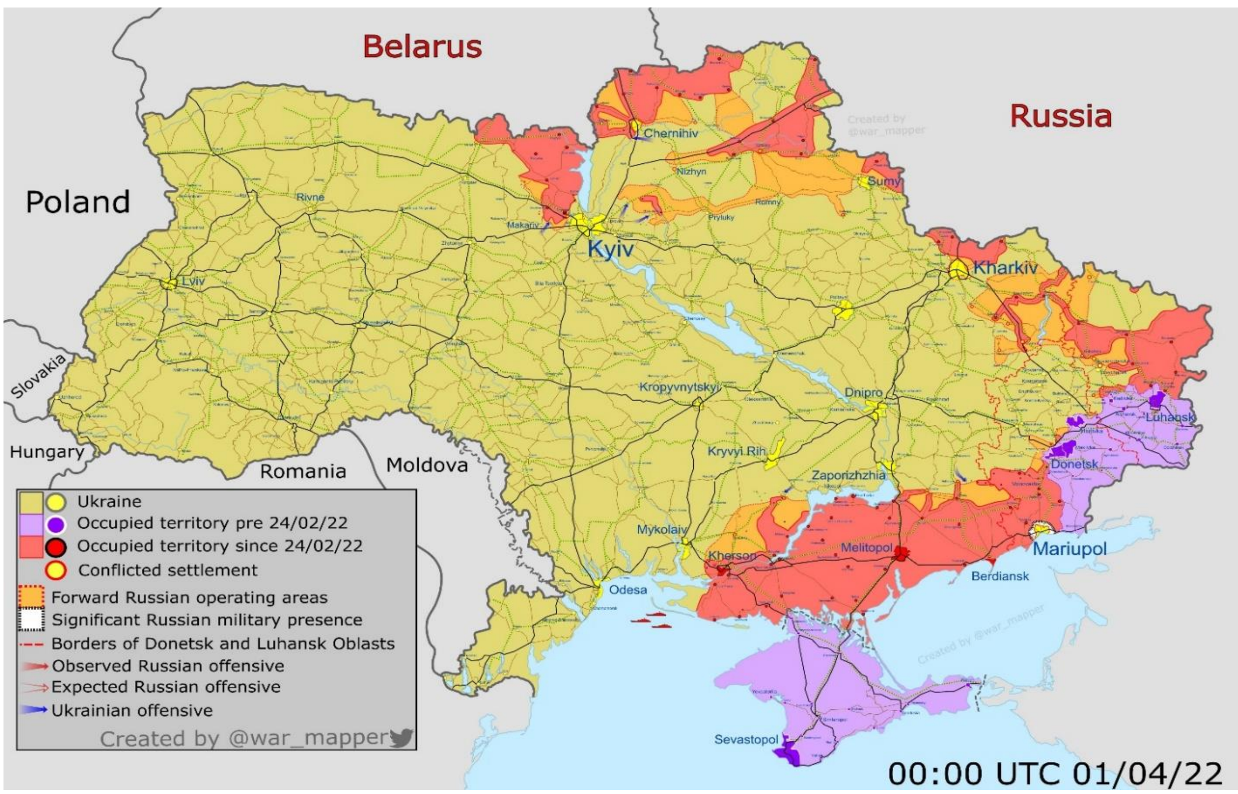
1. WAR UPDATE

Russia's full-scale invasion of Ukraine began on the morning of 24 February 2022, with missile strikes on the entire country. The attack was preceded by months of Russian troops gathering on Ukraine's borders, which Russia tried to disguise as exercises. The initial Russian plan was to quickly seize the main cities, several nuclear power plants, and, most importantly, the capital.

This time, the critical principle of military planning proved correct: no plan survives first contact with the enemy. Russia could not quickly capture Kyiv, physically destroy the state leadership, and arrange mass executions of those dissatisfied with its actions.[1] Russian aviation failed to achieve air superiority, as Ukrainian air defence and air forces withstood the first attack. Irpin, Chernihiv, Sumy, Kharkiv, and other cities and towns stood in the way of Russian tank columns, which significantly slowed down the movement of Russian troops.

The only operational area where Russians could achieve significant success was the south of Ukraine. Russian troops quickly captured Kherson, Kakhovka, Melitopol, and Berdiansk. Russia managed to block Mariupol from all directions, but its defenders heroically resisted for 86 days.

Figure 1. Russian invasion as of April 1, 2022



Source: @war_mapper based on information from open sources.

[1] Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022 — RUSI — [Link]

Following its defeat in the north, Russia quickly withdrew its troops from Kyiv, Chernihiv, and Sumy in April. Instead, the Russians concentrated their efforts on capturing the Donetsk and Luhansk regions.

Late spring and early summer were extremely difficult for Ukrainian defenders. Ukrainian artillery ammunition stocks were mostly depleted, and the Russians gained a 10:1 fire advantage in June.[1] The President's office then noted that up to 200 Ukrainian soldiers were being killed daily at the front.[2]

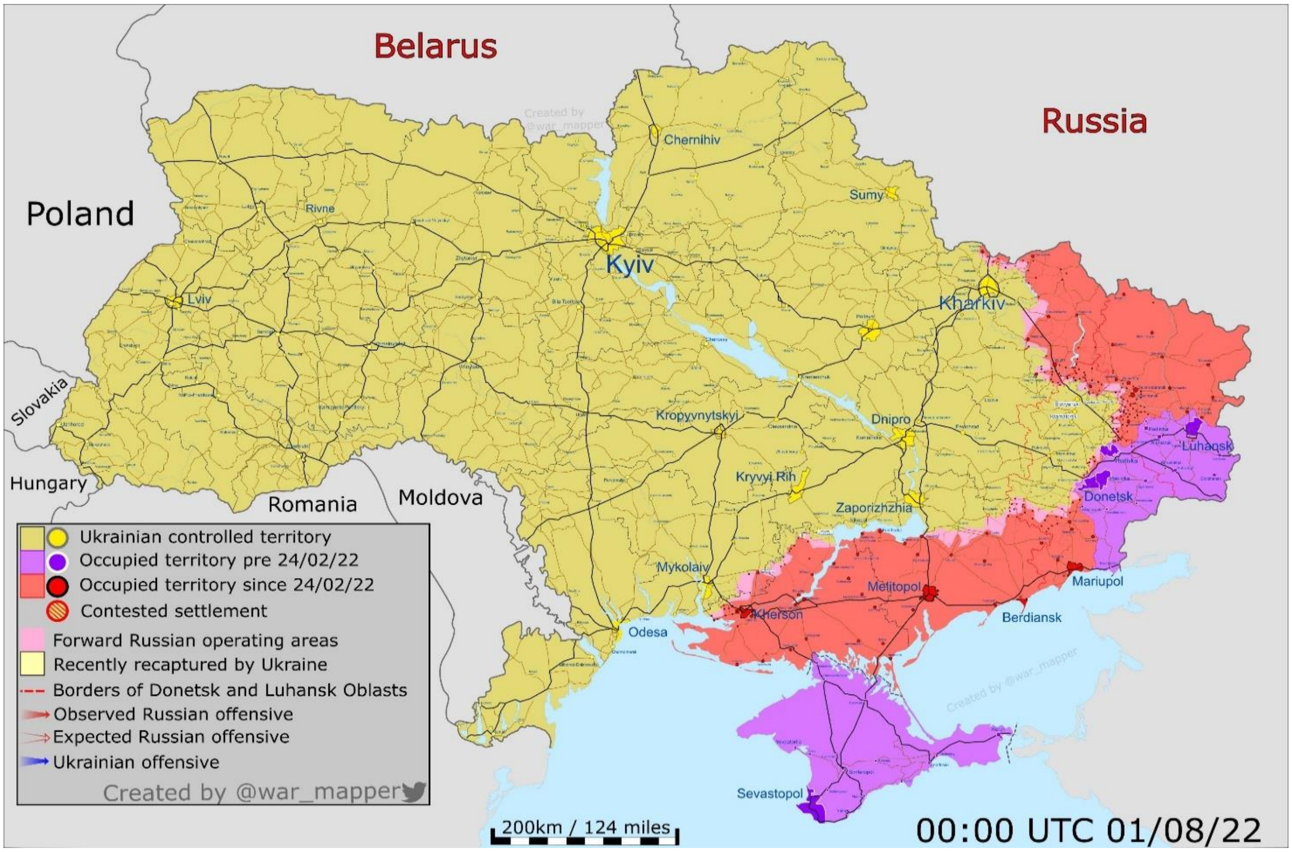
However, Russian troops failed to use their firepower to their full advantage. With considerable effort, Russians occupied the entire territory of the Luhansk region, including its administrative centre – Sievierodonetsk. Ukrainian troops took up the defence along the Siversk-Bakhmut line and have been successfully holding it until now.

The arrival of Western artillery, particularly HIMARS and M270 multiple rocket launchers, has significantly strengthened Ukrainian defences. The latter allowed Ukrainian troops to hit Russian military targets at a distance of up to 80 km, making it possible to destroy significant amounts of Russian ammunition and significantly hamper Russian logistics.

In parallel, Ukrainian officials began publicly disseminating information about the planned counter-offensive in the occupied Kherson region. This information attack on the Russians worked as planned and prepared the conditions for a further military offensive.

[2] BBC News Ukraine — Link

Figure 2. Russian invasion as of 1 August 2022



Source: @war_mapper based on information from open sources.

To deter a potential Ukrainian offensive, the Russians brought significant forces to the right bank of the Kherson region, despite the complicated logistics across the Dnipro. On 29 August, the Ukrainian command announced the launch of a counter-offensive in this direction. But the real breakthrough took place elsewhere – in the east of the Kharkiv region, where Ukrainian defence forces managed to de-occupy almost the entire territory of the region in less than a week.

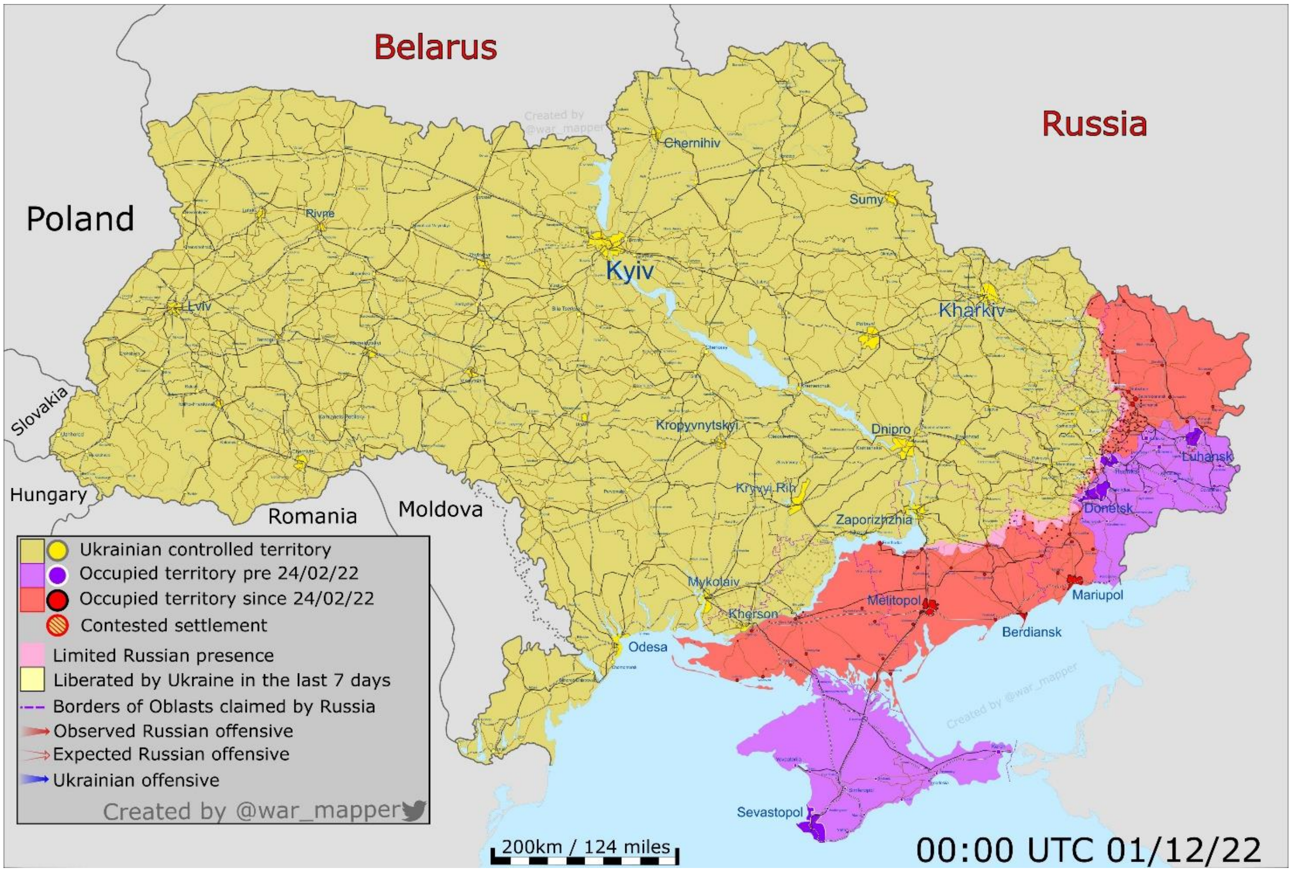
The rapid loss of the occupied Kharkiv region was a shock for the Russians. On 21 September, Putin announced the mobilisation of Russian conscripts. On 30 September, Russia formally annexed the occupied regions of Ukraine – even though it did not even fully control any of them at that time.

The annexation became a pretext for nuclear blackmail: Russia may use its nuclear arsenal if Ukraine does not stop de-occupying its territories. The blackmail did not work: under considerable pressure from Ukrainian troops, Russians left the right-bank part of the Kherson region on November 11.

Since the long-awaited de-occupation of Kherson, military operations have slowed. As winter approaches, Russia has shifted its focus to terrorist bombing of critical civilian infrastructure. The goal of the Russians is to physically destroy Ukraine's energy systems, cut off water and heating supplies to Ukrainians' homes, and further persuade the Ukrainian leadership to negotiate on terms favourable to the aggressor.

The coming winter will be the most difficult for Ukraine and Ukrainians in recent history. But the answer to the Russians is simple, President Zelenskyy aptly formulated it: “Without electricity or without you? Without you”.

Figure 3. Russian invasion as of 1 December, 2022



Source: @war_mapper based on information from open sources.

War damages. Direct damages to Ukraine from the war were estimated at USD 135.9 billion

Table 1. Damages, losses and recovery needs

Property type	Damages, USD bn
Residential buildings	52.5
Infrastructure	35.6
Agribusiness and land resource	6.6
Corporate assets, industry	13
Education	8.2
Energy	6.8
Social protection	0.2
Financial sector	0.1
Culture, tourism, sport	2.1
Vehicles	2.9
Retail trade	2.4
Public utilities	2.3
Health	1.7
Administrative buildings	0.8
Digital infrastructure	0.6
Environment	14.0
Total	135.9

Source: KSE/ "Russia will pay" project, as of November 2022.

2. INTERNATIONAL SUPPORT: THE ART OF THE IMPOSSIBLE

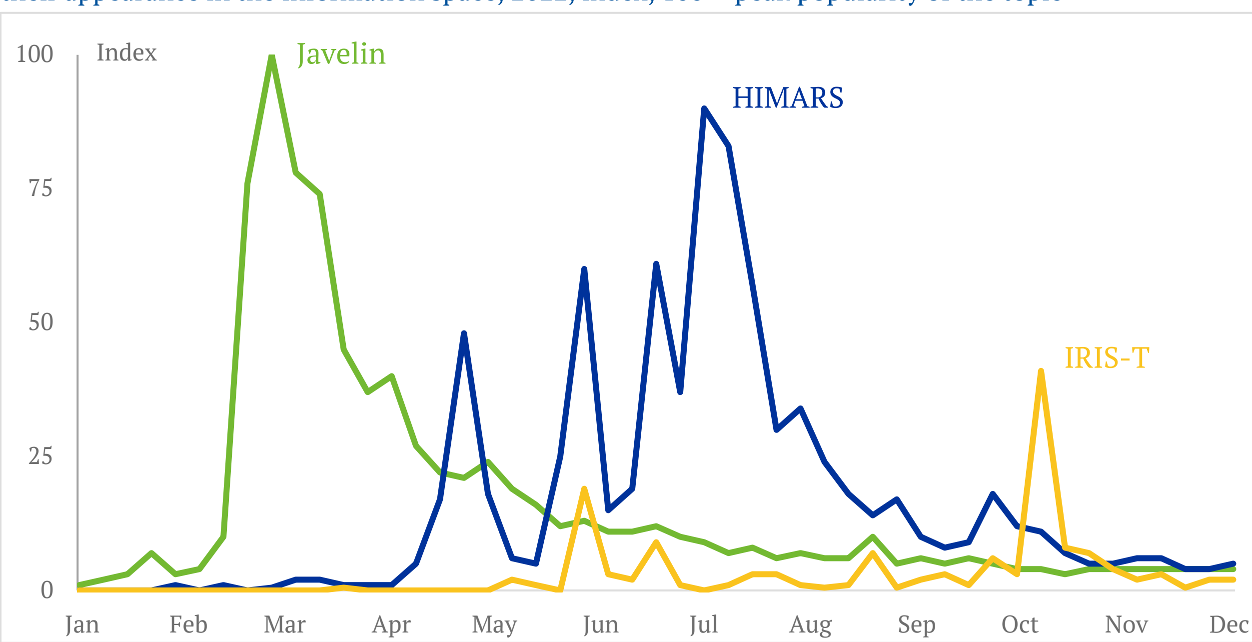
Politics is the art of possible. The last year has shown that the boundaries of the possible can be pushed very quickly, and in addition to the catastrophe that had appeared impossible, but became our reality – the war, Ukraine has made many things possible in world politics that were previously beyond imagination.

Impossible 1. War

In February, partner intelligence agencies warned the Ukrainian side of a planned Russian attack and offered Zelenskyy the means to flee. His response went viral: "I need ammunition, not a ride."

It was predicted that Ukraine would break within three days. Well, maximum two weeks. The invasion has now been going on for 10 months. At the beginning, the world was preparing to hand over NLAW and Javelins to Ukrainian guerrillas and was taking embassies out of Kyiv. With the liberation of cities in Kyiv and Kharkiv regions and the liberation of Kherson, Ukraine proved that it is capable of not only withstanding the attacks but also winning. Now the Armed Forces of Ukraine are armed with HIMARS and state-of-the-art IRIS-T air defence systems, and the US and Swedish embassies in Ukraine are posting information about new vacancies. Ukraine is receiving weapons, the supply of which was deemed impossible just a few months ago. We are trusted with more complex and powerful systems.

Figure 4. Search interests of Ukrainian users for certain types of military assistance received, indicating their appearance in the information space, 2022, index, 100 – peak popularity of the topic



Source: Google.

The ‘impossible’ also included tough sanctions against Russia. Now, there is already a price cap on oil, some Russian banks are disconnected from SWIFT, sanctions on Russian central bank assets, which lay the ground for future reparations, while European countries are actively working to overcome the long-standing energy dependence on Russian natural gas. This seemed impossible even after the annexation of Crimea in 2014, when Europe was building Nord Stream and officials talked about Russia as a reliable partner. Now Russia has been recognised as a terrorist state by several individual states and the European Union as a whole and the idea of a special tribunal is obtaining more and more support.

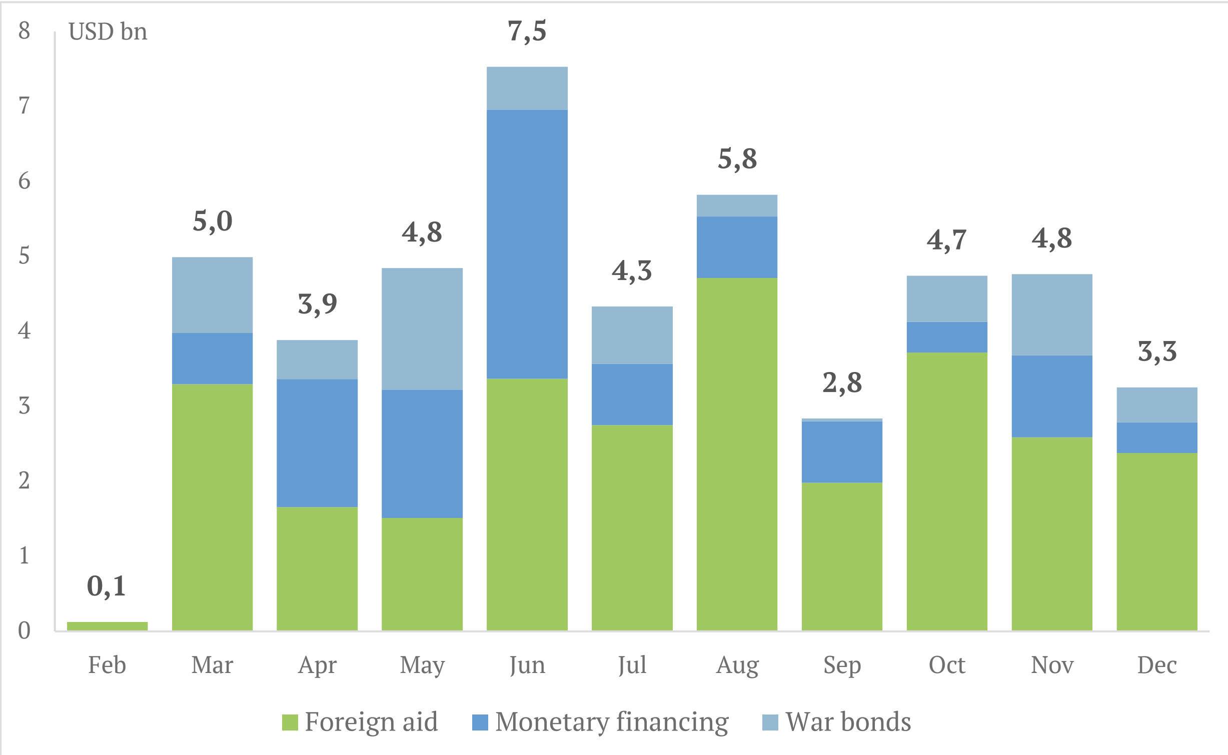
Two more ‘impossibilities’ are waiting for their turn and require political efforts. The first is providing Ukraine with long-range weapons. Impunity and appeasement generate more and more brutal aggression, openly terrorist behaviour aimed at civilians. If Ukraine is able to destroy the aggressor’s planes and ships on its territory, their missiles will not reach peaceful cities. The second is the inclusion of Russia in the FATF blacklist. Countries from this list become pariahs in the financial world, and this is exactly what should happen to Russia, a country that not only finances but also organises terrorist attacks against the civilian population of other countries. In addition to Ukraine, the victims’ list includes Syria and Georgia.

Impossible 2. Money

War on a state’s territory usually brings economic collapse. But Ukraine has kept proving that it can survive economically and financially. The banking system stands, the government continues to pay pensions and salaries, the hryvnia devalued but did not lose its role as the main means of payment. As a result, after ad hoc decisions and painful interruptions in the spring and summer, international financial assistance finally became more systematic. Partners believed that the government was able to manage the funds, and designs for financing Ukraine’s recovery became the number one topic discussed during several high-level international conferences and many smaller discussions and publications.

The total international budgetary assistance to Ukraine in 2022 amounted to USD 27 billion. The main donor countries are the United States, the EU, Germany, Canada, and the United Kingdom, and the IFIs. Their contribution represents one-third of the expenditure of the Ukrainian consolidated budget-2022 as of early November. The total need for financing since February has exceeded USD 45 billion, and the shortage of funds from international partners was covered by monetary financing by the NBU and domestic borrowing.

Figure 5. Additional financing of the state budget since 24.02.2022



Source: Ministry of Finance, NBU.

But Ukraine is paying a higher price for its resilience than its Western partners combined, losing USD 4 billion in capital stock value every week from February to September,[3] and this figure does not take into account the destruction of civilian energy infrastructure that began in October and continues to this day.

Financial support from partners needs to be made even more systematic, ensuring that it is regular, predictable, reliable and sufficient to finance urgent recovery and reconstruction needs right now, without waiting for the end of hostilities. It is important to strive to minimise debt financing and to give preference to grants over loans, even concessional ones, whenever possible, because, together with the economic downturn, rising debt will make long-term recovery policies extremely difficult.

At the same time, non-refundable funds for reconstruction can and should come from sources related to the aggressor. Russia must pay – at the expense of its central bank and its oligarchs. Recent events give reason to hope that this will happen and that the impossible will again become possible. First, it is necessary to overcome legal challenges at the level of the EU and other partner countries, enabling the confiscation and transfer of funds of Russian oligarchs and the Russian central bank to Ukraine. Intermediate solutions – investing the assets and directing the interest to the restoration of Ukraine, as well as borrowing against these assets – can also take place.

[3] Estimate based on the data of "Russia will pay" project.

Impossible 3. EU candidate status

If not for Ukraine's resilience and perseverance, 20 years of the EU's Eastern Partnership could easily have turned into 40 years, and the associated countries – Ukraine, Moldova and Georgia – would have been just as far from EU membership as before 2022. During the war, Ukraine was able to prove that it is part of Europe and its security architecture and made the partner countries recognise its previous EU integration efforts. The prospect of EU membership – almost unrealistic a few years ago – has become a matter of fulfilling a set of clear prerequisites.

But Ukraine has de facto already received part of the four European freedoms, with lightning speed. Assistance to refugees has essentially become an expression of the freedom of movement of people. Ukrainians are free to work and move in the EU – the Temporary Asylum Directive provided for that. The freedom of movement of goods is partly achieved through the exemption of Ukrainian goods from import duties, the abolition of tariff quotas and security measures for goods from Ukraine for a period of one year. Ukrainian power grids became part of ENTSO-E – the European Network of Transmission System Operators for Electricity. Ukrainian road carriers no longer need obtain special permits to travel across Europe, and the Ukrainian railway is likely to become part of the European TEN-T network soon. Such speed could not even have been dreamed of under the Association Agreement, which paved the way for these freedoms but suffered from slow implementation on both sides.

The seven steps towards opening the membership negotiations translate into an immediate and important 'homework' for Ukraine. But no less important are other steps in cooperation with the EU that require active actions and negotiations in Brussels and other capitals:

- It is necessary to try to achieve a more permanent status on the abolition of import duties and tariffs for Ukrainian goods, ideally to obtain an "industrial visa-free regime" (Agreement on conformity assessment and acceptance of industrial products, ACAA) and an agreement on mutual recognition of authorised economic operators at customs.

- To agree on mutual recognition of professional qualifications; to obtain internal market treatment for postal and courier services, digital services, and telecommunications.

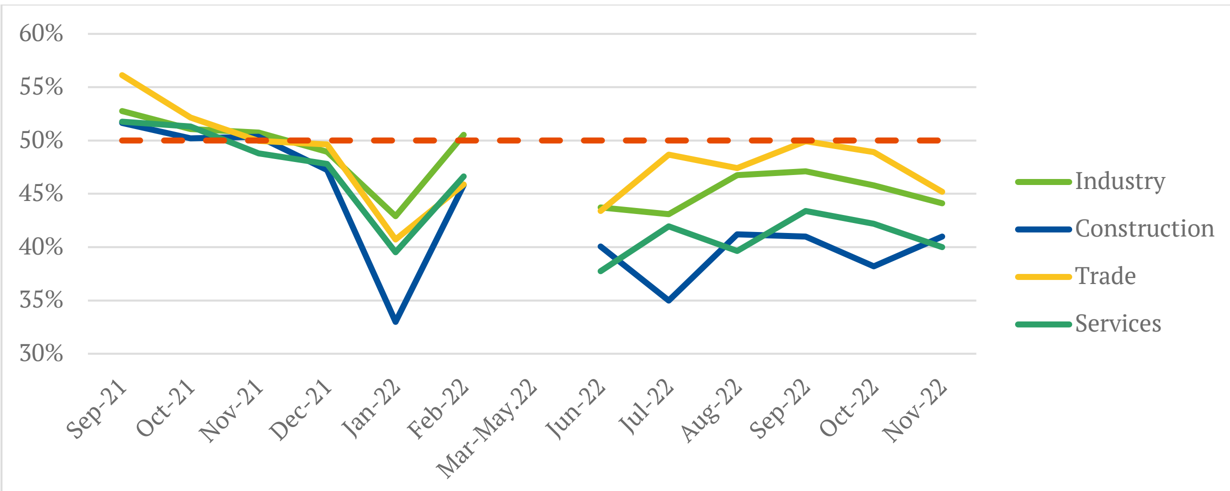
- To join transport agreements, including the Common Aviation Area Agreement and the Internal Maritime Market.

Institutionally, Ukraine can and should do everything to make its progress towards the EU irreversible, and even before full EU membership, Ukraine can enjoy freedoms that will allow for deeper integration.

3. ECONOMIC UPDATE

Economic activity. Business recovered quite quickly after the initial shock and began to resume work. According to business surveys conducted by business associations (notably the European Business Association and the American Chamber of Commerce), the share of enterprises that have fully or partially resumed work gradually increased, reaching a peak in August-September. The National Bank also resumed its polls, which also showed an increase in optimism. Only the destruction of the power infrastructure and the power outages have managed to ruin it.

Figure 6. Index of expectations of business activity



Source: NBU.

The fall of GDP. In 2022, Ukraine's GDP will fall by about a third. Dragon Capital recently lowered its forecast from 30% to 32%, the ICU investment group from 32% to 35%. This will be the biggest economic drop in Ukraine's history. For comparison, the financial crisis led to a 15% drop in 2009, the start of the war with Russia to drops of 6.6% in 2014 and 9.8% in 2015. Expectations vary for next year. Dragon Capital expects a 5% decline, while ICU forecasts a 4% increase.

Metallurgy. In the first months of the full-scale invasion, ferrous metallurgy lost about a third of its assets with the destruction of the Azovstal and Illich Iron & Steel Works, respectively the second and third largest metallurgical plants in Ukraine; the Avdiivka Coke and Chemical Plant was also damaged and closed. In the autumn, the largest metallurgical plant, ArcelorMittal Kryvyi Rih, was also partially damaged. Other plants first halted and then periodically resumed production. In addition to the destruction, the blocking of commercial seaports, through which most metal exports passed, became a huge problem.

All this led to a strong decline in industrial performance. From January to November, metallurgical output decreased by 70% compared to the same period last year. In the Worldsteel ranking of world steel producers, Ukraine fell from 14th place in 2021 to 22nd according to the results for 10 months in 2022. In the first three-quarters of the year, exports of ferrous metals declined to 4 billion dollars (-62%) and ores to 2.8 billion dollars (-54%).

Energy and fuel. The first few months of the full-scale invasion in Ukraine were plagued by a fuel crisis. The aggressors destroyed the Kremenchug Oil Refinery (the largest operating refinery) and a number of oil depots.

The supply of oil products from Russia and Belarus, which were the main suppliers, also stopped. So, Ukraine had to establish fuel logistics essentially from scratch. It was only possible to overcome the shortage and long queues in July, but literally at a high price. Since the beginning of the year, fuel has risen in price by 65%. Only fruits and eggs increased in price faster.

Subsequently, an attack began on another segment of the energy industry, which was (and remains) much more difficult to deal with due to higher concentration — production, transmission and distribution of electrical energy.

In addition to the earlier occupation of the Zaporizhzhia NPP, the largest in Europe, in October the aggressor began to strike at generation and distribution facilities. Two months after the start of such attacks, not a single HPP and TPP remained in Ukraine that did not come under fire. At least half of the high-voltage cells were damaged.

As a result, Ukraine faced a shortage of electricity. The national transmission operator Ukrenergo was forced to limit consumption. The whole country lives according to blackout schedules, which, moreover, cannot always be adhered to.

After each successive strike, the situation worsened, and after the missile strikes on November 23, there was a short but complete blackout. It was the power outages that worsened business sentiment and led to a revision of macroeconomic forecasts. Due to the increase in consumption during the winter and the inability to obtain all the necessary replacement equipment quickly, the outages are expected to last until at least the end of March.

Agriculture. Due to the pollution with mines of agricultural land, logistical problems, and unclear export prospects (due to the blocking of seaports), Ukraine only sowed spring crops at 84% of last year's area. However, as a result, everything turned out quite well with exports.

In July, under the pressure of international partners, the Russian Federation agreed to the 120-day "Grain Initiative", which opened Odesa's ports for agricultural exports. In November, the initiative was extended for another 120 days. In addition, traders and logisticians managed to establish shipments via land channels.

In total, since the beginning of the 2022/23 marketing year (started in July), Ukraine exported 20 million tonnes of grain crops. Of these, exports through seaports (as part of the "Grain Initiative") amounted to 14 million tonnes. In monthly terms, exports even caught up with last year's figures.

The harvest of the main crops stands currently at 64 million tonnes (for comparison, last year was a record 106 million tonnes). But prospects for the next harvests are still unclear.

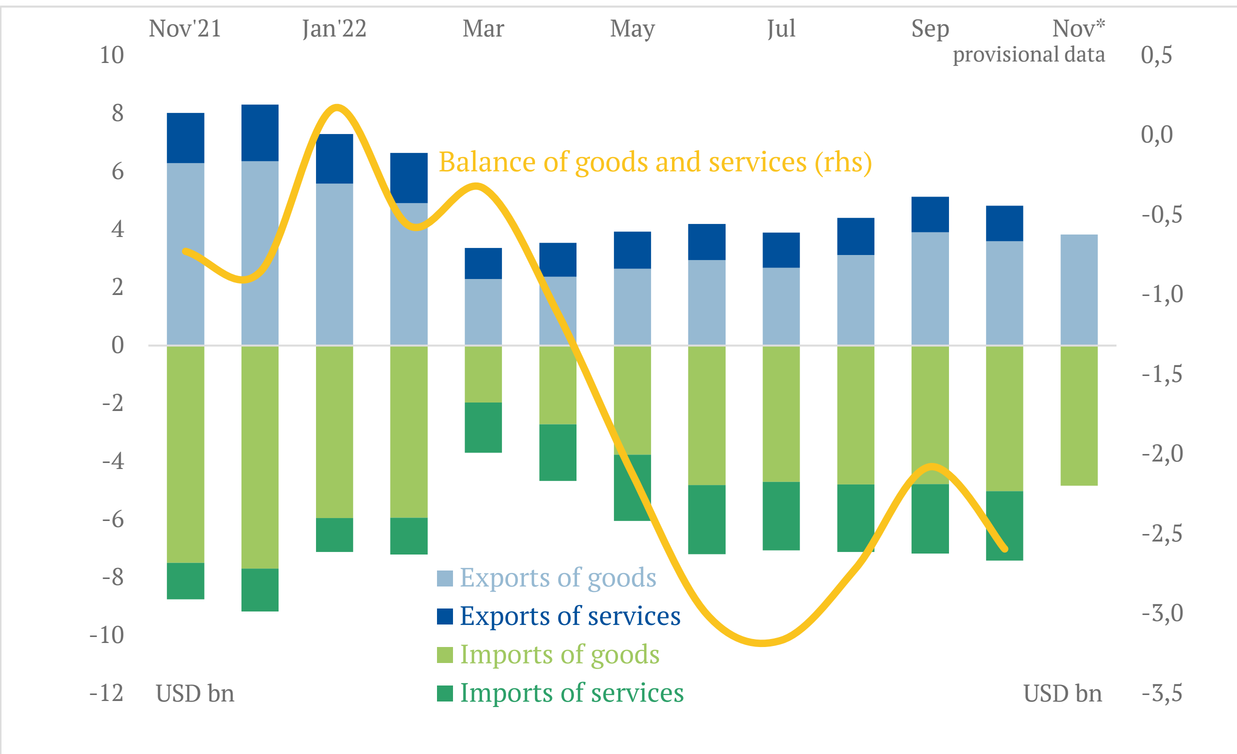
94% of the planned winter sowing campaign was completed, but the objective is 40% less than the previous year. What happens with the next warm-weather campaign will depend on the implementation and expansion of the Grain Initiative.

External sector. In the first 10 months of the year, Ukraine ended with a balance of payments deficit of 5.865 billion dollars. Despite the devaluation of the hryvnia, the balance of the trade balance (minus 17.523 billion dollars) was worse than last year both in absolute and even more so in relative terms.

This is due to supply-side problems in the case of exports and the preferential tax treatment that has been in place for imports for some time. There was also an outflow on the financial account (13.717 billion dollars).

A significant increase in primary (7.59 billion USD balance) and secondary (17.761 billion USD) revenues partially saved the situation, but could not turn the balance of payments into a surplus.

Figure 7. The trade balance, USD billion



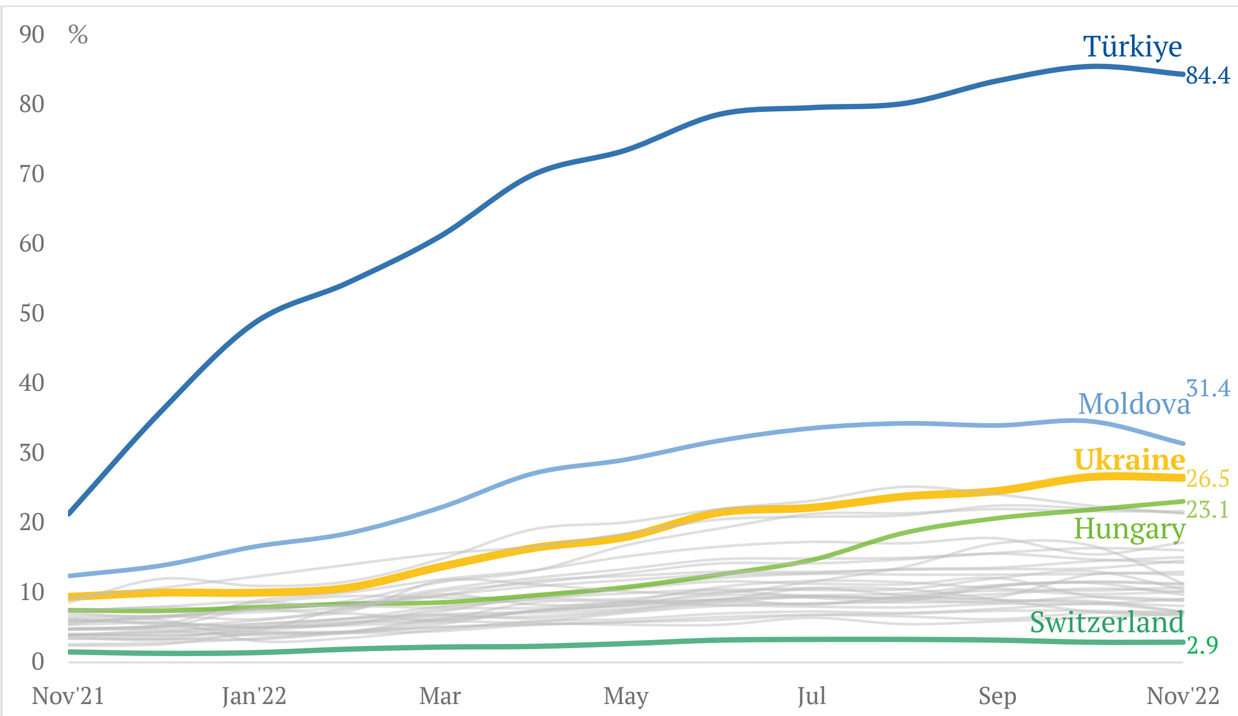
Source: NBU, Ministry of Economy.

4. MONETARY AND FINANCIAL SECTORS UPDATE

The de-occupation of the territories, the expansion of food supplies and the need to sell perishable goods more quickly eased inflationary pressure. Annual inflation in November was 26.5% compared to 26.6% in October. In monthly terms, prices increased by 0.7% in November (2.5% in October).

During the last months of the year, the inflation rate was expected and did not exceed the latest forecast of the NBU. Thus, by the end of the year inflation in Ukraine will be about 30%. For a country at war, this level of inflation is quite moderate. For comparison, in neighbouring Moldova the annual price growth will exceed 34%. The economic consequences of the Russian aggression know no borders.

Figure 8. Annual inflation in Ukraine, EU member states, and other selected European countries, y-o-y, %



Source: Ukrstat, National Bank of Moldova, Turkstat, Eurostat

The official exchange rate in November remained fixed at 36.57 UAH/USD. The NBU's foreign exchange interventions in November amounted to USD 1.6 billion, the lowest level since the beginning of the full-scale war. The volume of currency purchases by the National Bank remained low and amounted to USD 64 million in November.

The NBU's foreign exchange reserves have increased significantly: from USD 25.2 billion to almost USD 28 billion as of 1 December. International reserves exceed the pre-war level; as of the morning of 24 February, they amounted to USD 27.4 billion.

The key factor that allowed international reserves to grow so much over the month was the inflow of international aid: the NBU reports that in November the government's foreign currency accounts at the National Bank received more than USD 4 billion from the EU and the United States.

The National Bank has been pursuing a fixed exchange rate policy since the beginning of the full-scale war. The exchange rate was fixed on 24 February at 29.25 UAH/USD; together with a number of administrative restrictions, this decision made it possible to avoid panic and a collapse in the exchange rate.

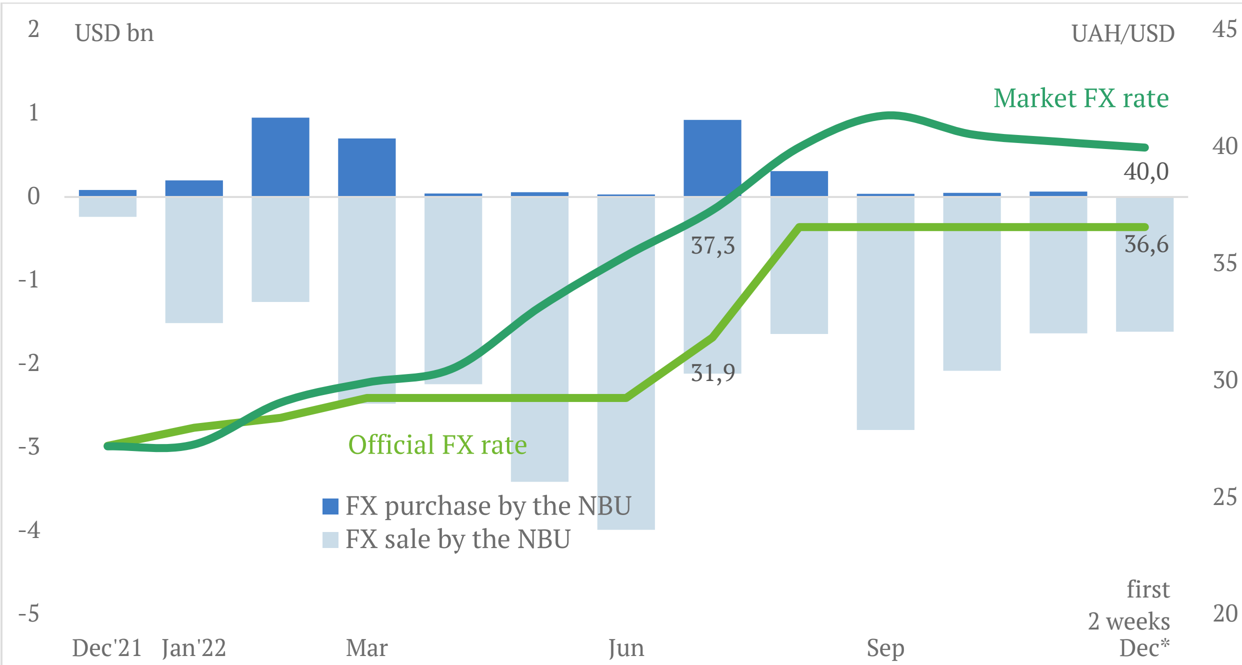
Over time, a discrepancy between the official and market exchange rates began to appear, and the NBU adjusted the exchange rate, raising it to 36.57 UAH/USD.

On the cash market, the hryvnia continued to strengthen over the last month: from 40.55-40.7 UAH/USD as of November 15 to 39.2-40.1 UAH/USD as of December 15.

The gap between the official and market exchange rate remains – this forces the NBU to intervene on the foreign exchange market more often. The NBU hopes to avoid the need for another correction of the fixed exchange rate before gradually returning to a floating one, but when this will happen is still unknown.

As long as it is possible to maintain the fixed exchange rate, it is worth doing so. Subject to timely receipt of foreign financial assistance, the NBU will have enough foreign exchange reserves. The weakening of the exchange rate would have few beneficial consequences: exports are limited – primarily by security and logistics factors; imports would become more expensive, and the rise in prices would lead to even greater poverty.

Figure 9. NBU foreign exchange interventions, in USD billion, and weighted average official and market exchange rates UAH/USD (the right-hand scale)

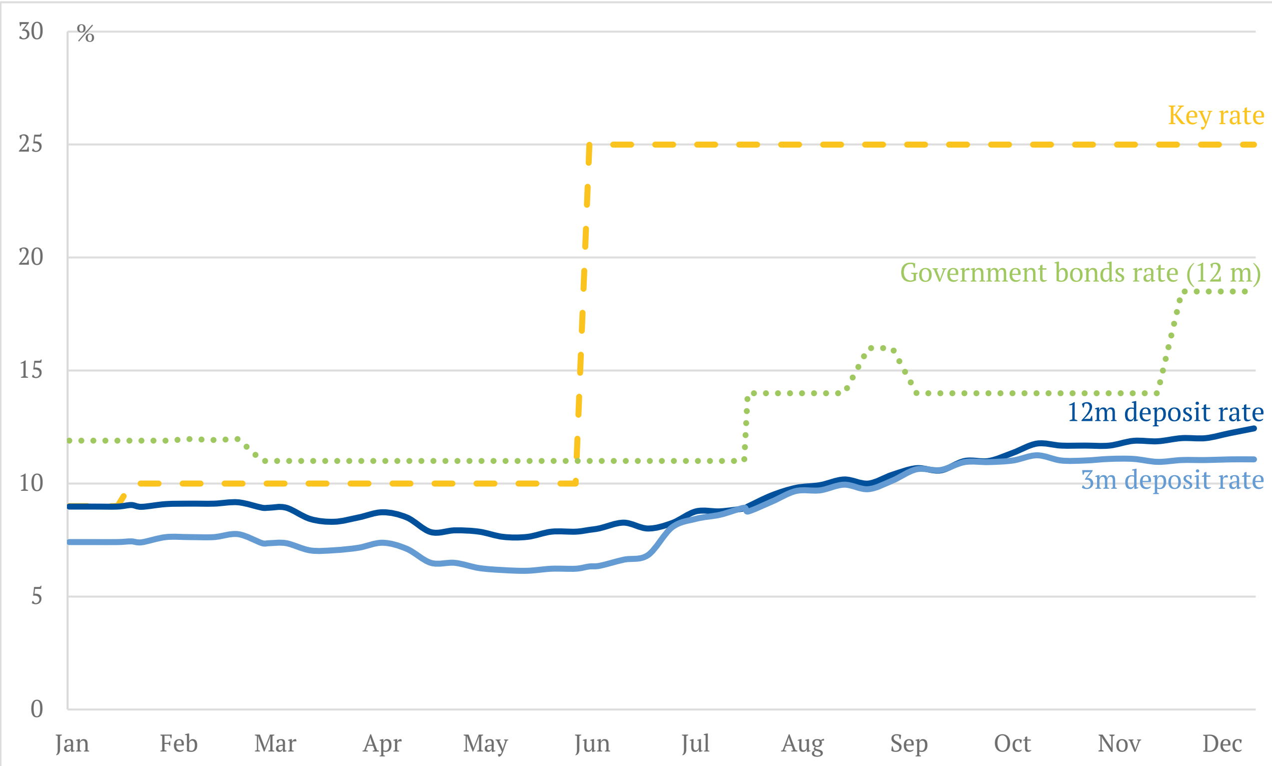


Sources: NBU, minfin.com.ua

The key policy rate remained at 25% and the Ministry of Finance increased the yield of one-year hryvnia military bonds to 18.5%. The increase in the yields on these bonds made them more attractive given the high inflation rate. Due to this, the state budget managed to attract UAH 21.6 billion in November, compared to UAH 6.9 billion in October.

Average rates on retail deposits (UIRD) continued to creep up slowly and almost reached 12%. Banks do not feel the need to attract funds from the population due to almost no lending, so they have no incentive to increase their deposit rates significantly.

Figure 9. The NBU discount rate, rates on hryvnia consumer deposits (12- and 3-month) and weighted average level of yield on hryvnia government bonds, %, p.a.



Sources: NBU, UIRD

The banking system as a whole has shown its resilience since the beginning of the full-scale war. The vast majority of banks are operating: only two banks have left the market and two more (Russian-owned) have been closed by the NBU; the remaining 67 banks continue to operate.

Lending remains depressed. Corporate lending has been growing for some time, exclusively at the expense of loans from state-owned banks, also boosted by the "5-7-9" programme.

The situation with deposits is livelier than with loans, despite relatively low yields. Hryvnia demand deposits show steady growth, partly due to the high military salaries paid to cards; after the NBU introduced a new type of short-term foreign currency deposits in July, term foreign currency deposits also started to grow.

In general, the banking sector is holding up. However, banks are essentially acting purely as payment intermediaries – lending is very limited, excess liquidity is held in NBU certificates of deposit, and other operations are almost inactive. Frequent electricity outrages and a possibility of a total blackout after Russian missile attacks are another challenge for the banking system. The NBU has been working together with the banks to ensure the stable operation of a skeleton branch network needed for providing essential financial services. For a more detailed overview of the situation in monetary policy and the financial sector, as well as the factors of resilience and key challenges of the financial system, please read our latest study here.[4]

[4] Стійкість України: уроки 2022 року — ЦЕС — Link

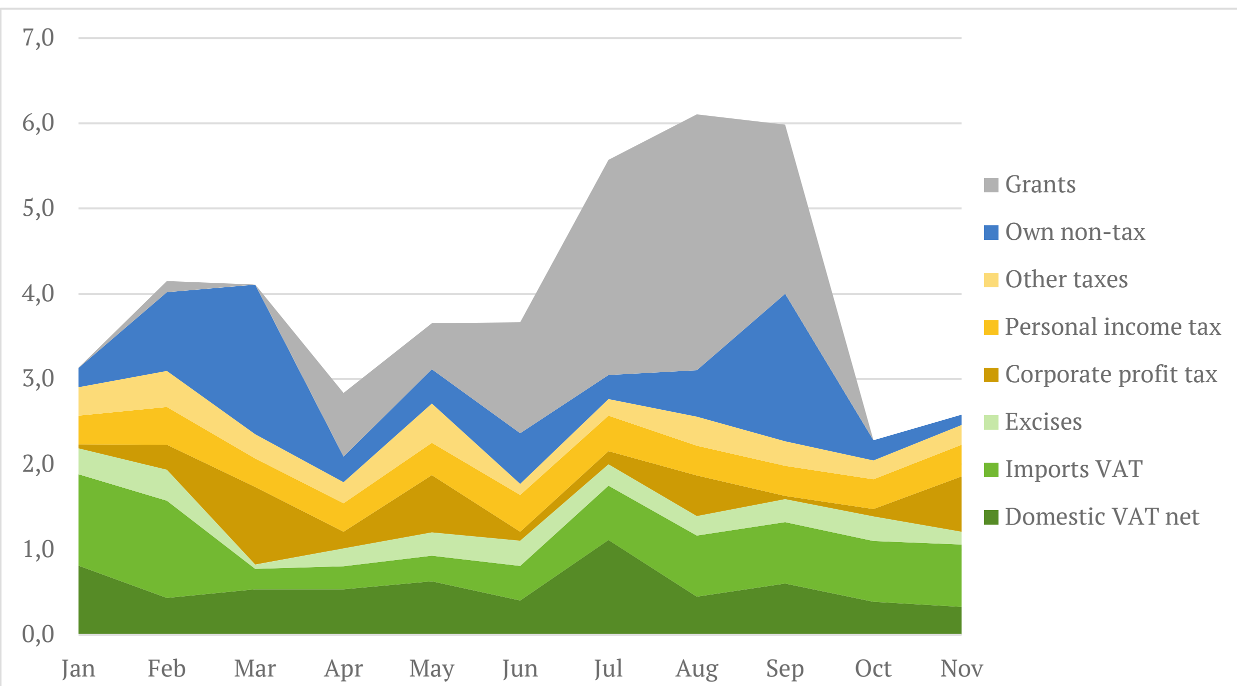
5. FISCAL SECTOR

In October, VAT revenues amounted to UAH 40.2 billion or 57% of all tax revenues (VAT constituted 49.9% of all tax revenues for 10M2021, 50% for 10M2022). In the first months of the full-scale war, tax revenues from the largest source, VAT, halved month-on-month, with the budget under-receiving about USD 1 billion monthly in March-June. The initial impact was due to the decrease in economic activity, caused by the shock from the beginning of the war, which affected consumption and logistics. Later, other factors kicked in: the decrease in the numbers of consumers and employees due to the refugee crisis and recruitment to the armed forces, the temporary exemption of imports from VAT and customs fees, a significant extension of the simplified taxation system, and the spring fuel shortage.

This decline was partially offset by large one-off revenues in February-March, such as distribution of profits of state-owned entities (UAH 35.2 billion), corporate profit tax, including advances (UAH 34.9 billion), NBU profit (UAH 18.8 billion), etc.

With gradual economic recovery and revocation of tax cuts, the revenues from domestic and import VAT rebounded in July and subsequent months. Since August, gross domestic VAT and import VAT revenues have remained stable, while the VAT refund, which decreases net domestic VAT, continues to fluctuate significantly. The refunds depend on the availability of funds on the Treasury account, as the Ministry of Finance prioritises defence spending.

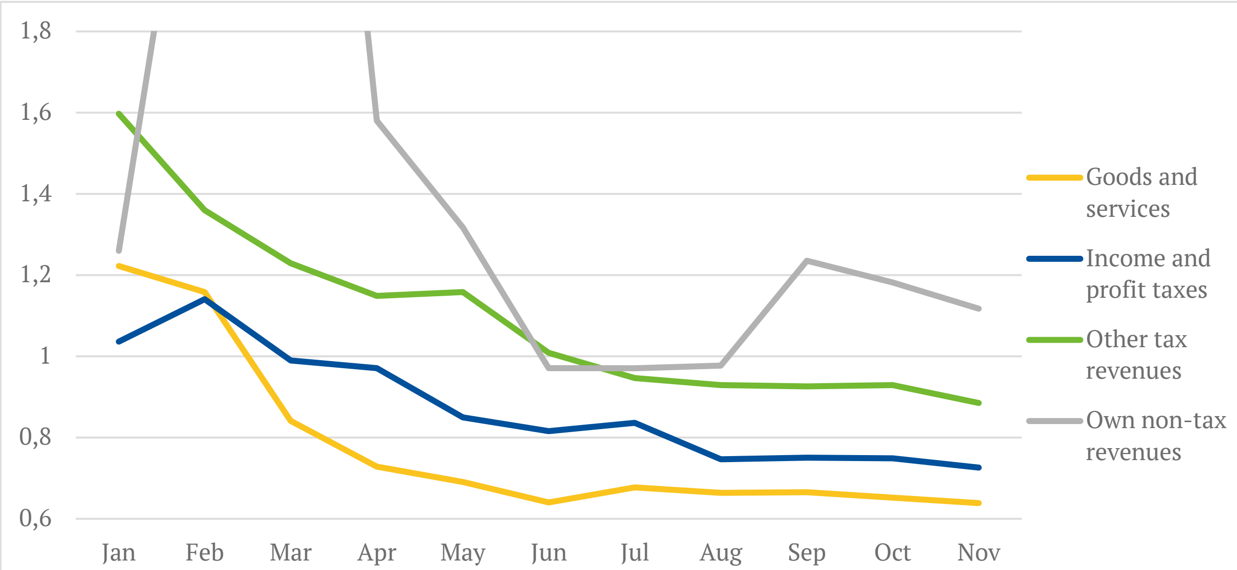
Figure 10. State budget revenues by source, USD bn



Sources: NBU, Ministry of Finance.

Adjusted for inflation, we observe a continued slight deterioration in cumulative tax revenues, as well as total own revenues, compared to the previous year (see Figure 11). However, the grants received compensate for this decline.

Figure 11. Ratio of the own budget revenues by type in 2022 to 2021, cumulative since January, adjusted for inflation



Sources: NBU, Ministry of Finance.

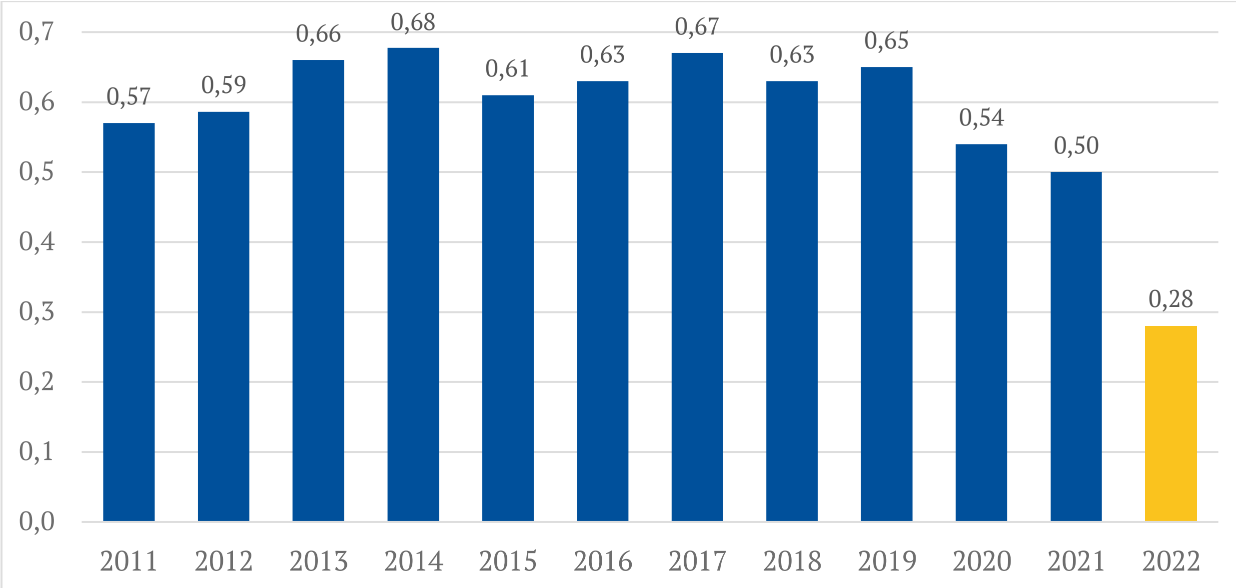
Over the last two months, many Ukrainian businesses reported difficulties with registering tax invoices and VAT credit in the VAT electronic administration system. This was caused by recent changes to the CMU Decree on VAT registration procedure with the aim of combatting VAT fraud and led to an increased suspension rate of VAT invoices and the subsequent need to appeal such decisions.

For 11 months of 2022, VAT refunds amounted to only 28% of VAT revenues from goods and services produced (provided) in Ukraine, which is 22 pp. lower than previous historically lowest value of 2021 (see Figure 12). In absolute terms, the volume of VAT refunds was UAH 76 billion lower in 2022 with almost matching gross revenues. This is a significant amount for the budget, on par with monthly tax revenues. Some part of it may be attributed to decreased VAT fraud, but a tangible amount was also withdrawn from the working capital of compliant businesses.

At the same time, median VAT refund time increased by over 60 days, with the state de facto using VAT refund liabilities for short-term interest-free funding of its own expenditures for 2 months or more, collecting an additional inflation tax.[5]

[5] Resilience of Ukraine: Lessons from 2022.

Figure 12. Ratio of VAT refund to domestic VAT paid for 11 months of respective year, %

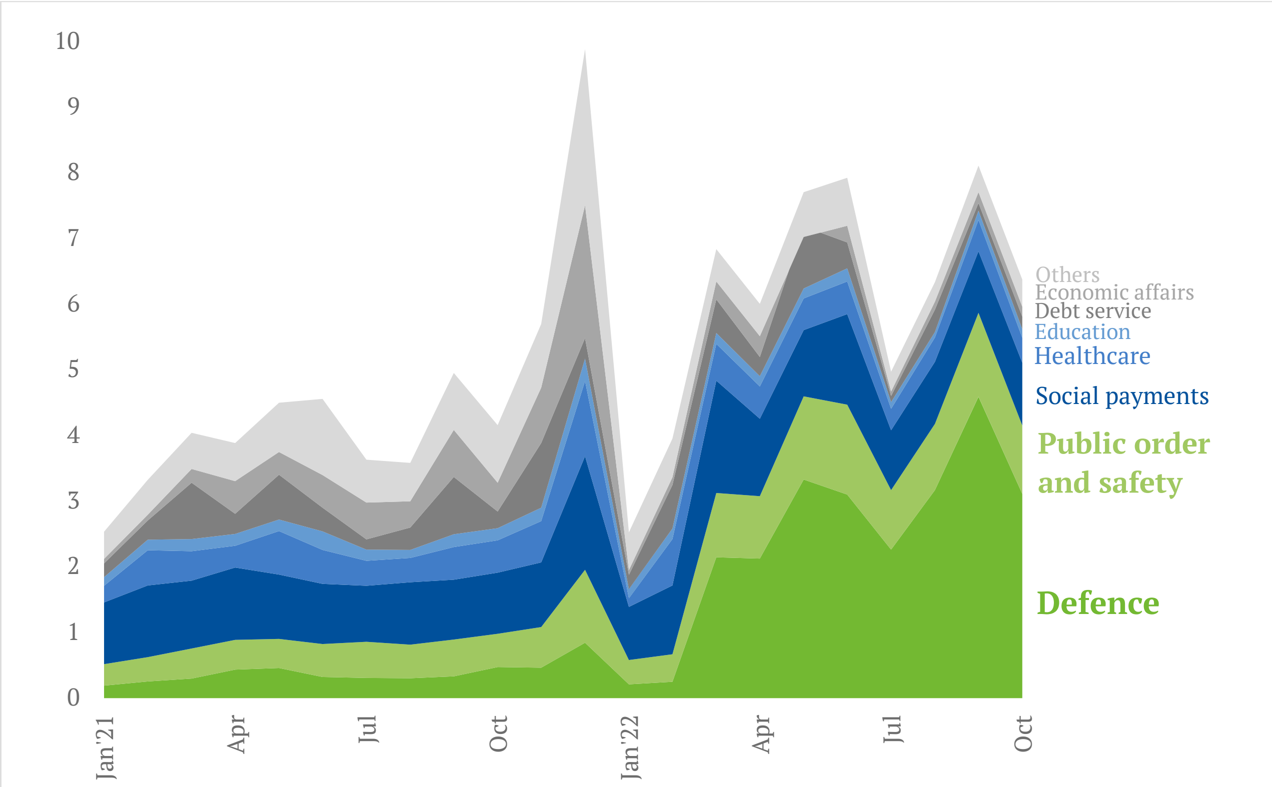


Sources: Open data, CES calculations.

Entering the winter, the main negative factor for budget revenues is power outages, which already led to downside adjustment of GDP forecasts (-1.2 pp. to -33.2% y-o-y by the Ministry of Economy, -2 pp. to 32% by investment bank Dragon Capital).

The main upside factors, which will remain in coming months are the extremely soft fiscal policy, which supports domestic consumption via military salaries and equipment orders, inflation, gradual increase in imports and stabilised logistics corridors for Ukrainian exports.

Figure 11. State budget expenditures by state functions, USD bn

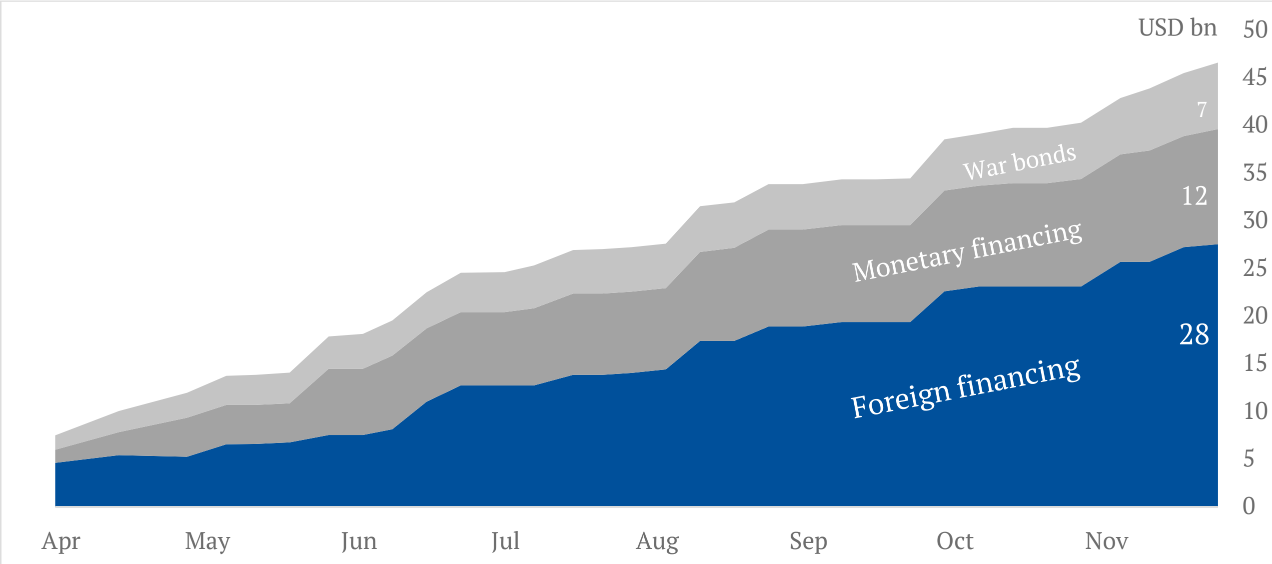


Source: NBU

Immediately at the outbreak of the war, Ukraine faced the need to finance rapidly growing expenditures, primarily military ones. The National Bank came to the rescue, as it had abandoned the principle of emission financing of the budget during the war. However, monetary financing can be implemented only at a very limited scale – its significant volumes could lead to uncontrolled hyperinflation.

Foreign financial (primarily budgetary) assistance became extremely important in order to prevent the worst of the worst scenarios in the economic situation. The first foreign grants and loans began to arrive within a few days after the start of the full-scale invasion. Over time, foreign funding has become an extremely important source of budget financing: as of the middle of December, it amounted to USD 28.1 billion (of which grants – USD 12.1 bn, or 43.4%) – 60% of all additional funding received by the Ukrainian budget.

Figure 12. Sources of additional financing of the state budget of Ukraine during the war, cumulative, USD billion



Source: Ministry of Finance as of 14.12.2022.

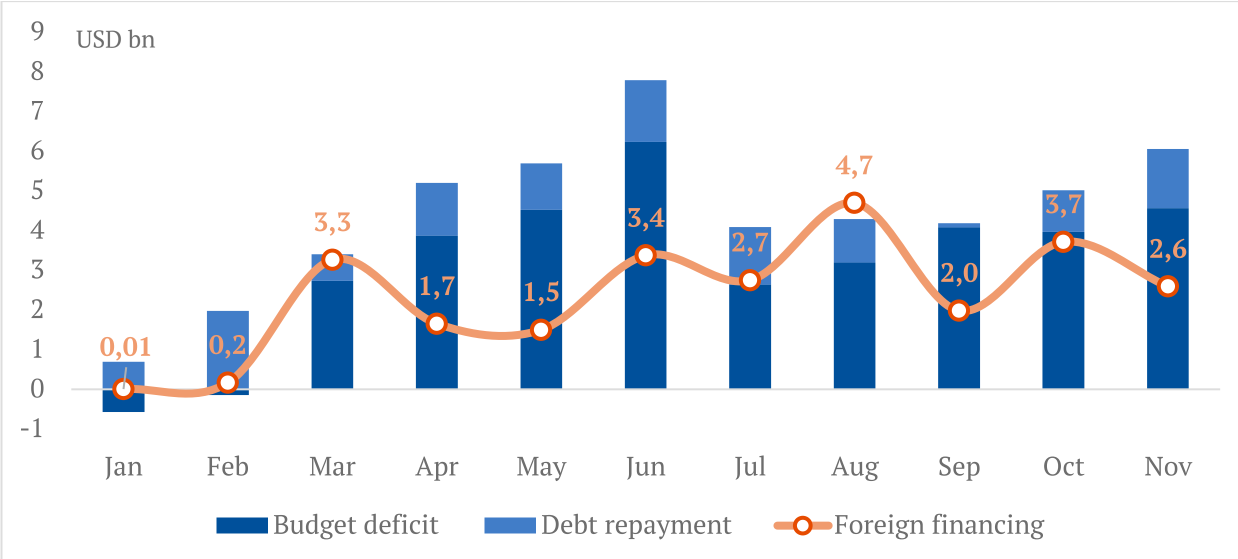
The main problems faced by Ukraine in the context of foreign financial assistance are the irregularity of revenues and the discrepancy between the pledged and disbursed amounts of assistance.

The amount of budgetary aid pledged in 2022 is USD 36 billion; taking into account USD 28 billion that has already been disbursed and about USD 3 billion that Ukraine can realistically still receive this year from the US; this leaves USD 5 billion that has been pledged but not transferred to Ukraine.

Most of this sum is EUR 3 billion from the EU, part of the 9 billion that the European Commission promised Ukraine back in May; Ukraine will definitely not receive these funds.

The rest of these funds are smaller pledges from various bilateral donors, agreements on which for one reason or another have not been finalised. The lack of consistency of inflows complicates expenditure planning and makes it necessary to resort more often to debt financing.

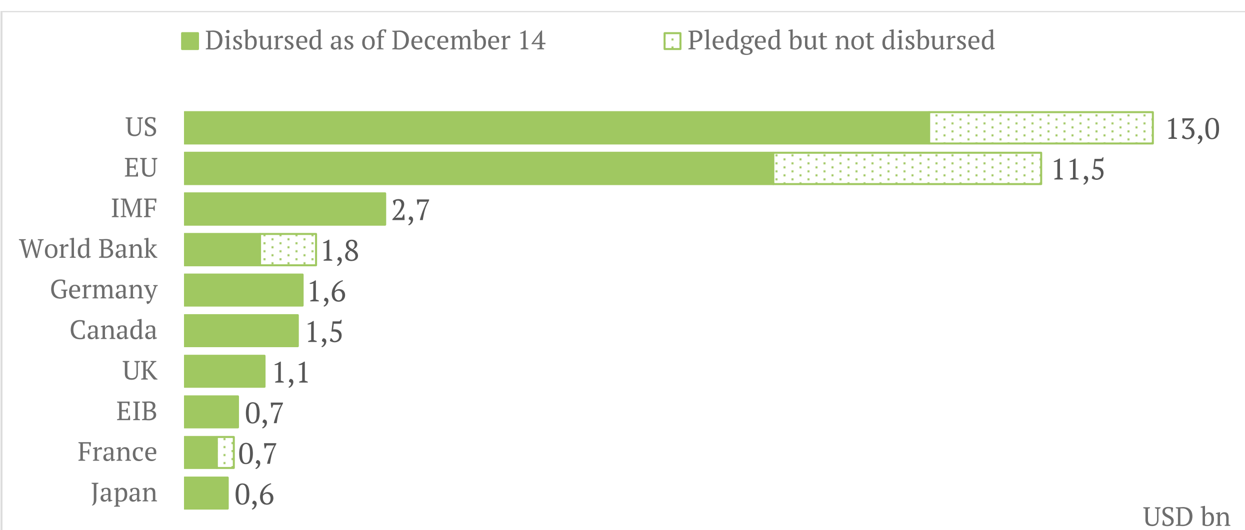
Figure 13. Inflows of foreign funds and financing needs, 11 months of 2022, USD billion



Sources: Ministry of Finance, NBU, CES calculations (we consider the financing of the state budget of Ukraine at the expense of grants from international partners to be deficit financing, not a source of revenue).

The largest donors of the state budget of Ukraine in 2022 were the United States and the European Union, which as of 14 December provided USD 10 billion and USD 7.9 billion, respectively. The US and the EU are also expected to be the main donors of financial assistance next year: Ukraine expects to receive USD 18 billion from the US and EUR 18 billion from the EU in 2023. Though the process of allocating these EU loans faced resistance from Hungary, which blocks almost any assistance to Ukraine, the issue was overcome.

Figure 14. Main foreign donors to the state budget of Ukraine, USD bn



Sources: Ministry of Finance, Kiel Institute for the World Economy, CES research.

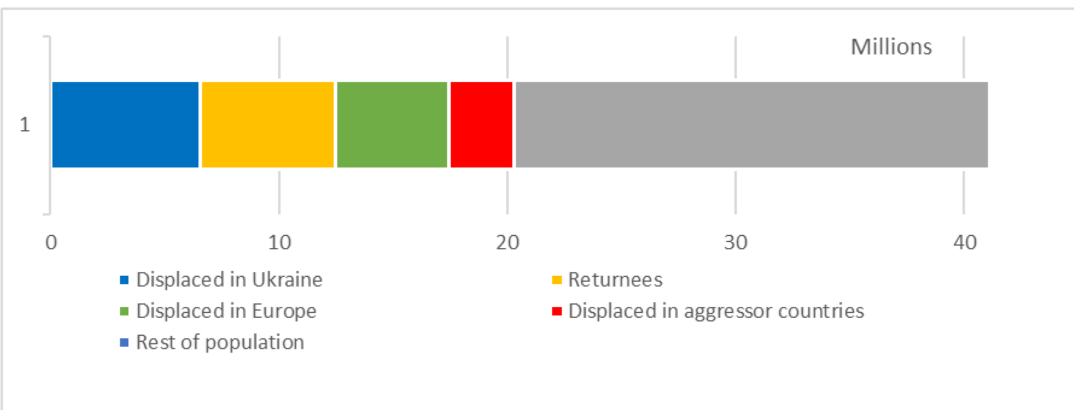
6. HUMAN CAPITAL: MIGRATION AND LABOUR MARKET

Written by economist Hanna Sakhno

The full-scale Russian invasion of Ukraine on 24 February 2022 created a humanitarian crisis on a scale Europe had not seen since the 1940s. While about 2.5 million people, mostly from Syria, had sought asylum in Europe in 2015 and 2016, it took just three weeks from the invasion for 3 million people to leave Ukraine. For ten months, Ukraine has been experiencing unprecedented human capital losses due to mass migration abroad in search of safety, mainly women and children, loss of lives due to the shelling of Ukrainian cities and civilian infrastructure, and military casualties in the war zone.

According to conservative estimates, around half of the pre-war population of Ukraine, or at least 20 million people, have been directly involved in active migration processes caused by Russian aggression.

Figure 15. Assessed scale of the humanitarian crisis for the population of Ukraine.

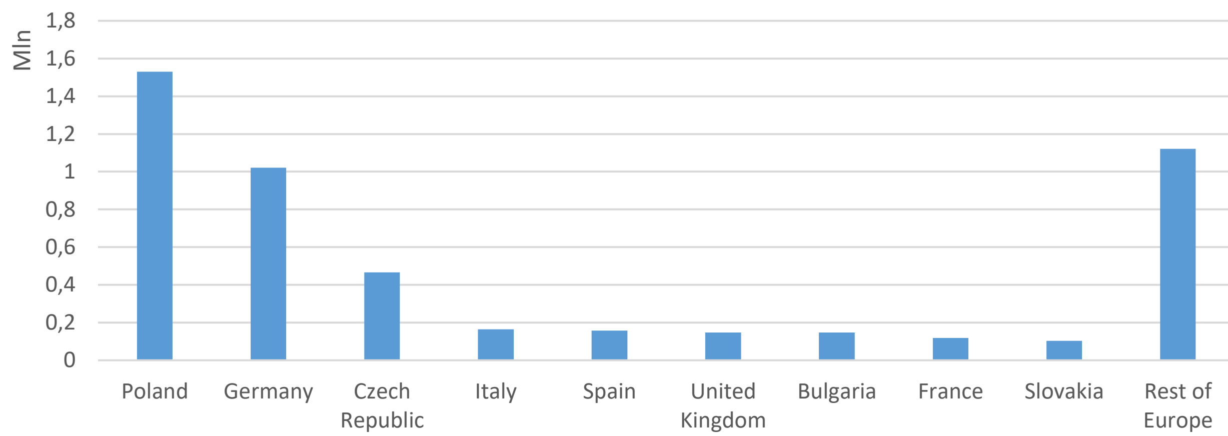


Note: Estimates of the number of internally displaced persons and returnees are approximate and based on the results of sociological surveys by the International Organization for Migration. The data do not account for human casualties among the civilian population and the military, as well as those Ukrainians who found refuge outside European countries. As of 1 January 2022, the population of Ukraine numbered 41.1 million excluding the temporarily occupied territory of Crimea and the city of Sevastopol.
Sources: State Statistical Service of Ukraine, International Organization for Migration, UNHCR, CES calculations.

Displaced Ukrainians abroad

Approximately 7.8 million Ukrainians, or almost the population of a country like Switzerland, have found safety in European countries[6] since the beginning of the full-scale Russian invasion. Of them, 4.8 million received temporary protection in one of the host countries. Half of all Ukrainian refugees have settled in Poland and Germany (Fig. 16).

Figure 16. Registered Ukrainian refugees in European countries.



Note: Refugees from Ukraine who have applied for temporary protection or similar national protection programmes in Europe. For Turkey, Georgia, Albania, Bosnia and Herzegovina, North Macedonia, and Moldova, the number of Ukrainian refugees registered in the country is indicated. Ukrainian refugees in Belarus and the Russian Federation (2.9 million) are not included in the figure for Rest of Europe. Data as of 6 December 2022.
Source: UNHCR.

Displaced Ukrainians abroad are primarily women and children under 18 (i.e., they make up 90% of all Ukrainian refugees in Poland, estimated the UNHCR). Host countries promote the integration of Ukrainian children into local schooling systems, however, the data on school enrolment is patchy. In the summer 2022, 492,647 Ukrainian children had been integrated into the national school systems of EU countries, according to the European Commission. Latest estimates suggest that around 393,500 Ukrainian children are enrolled in schools in only two major host countries of Ukrainian refugees (192,500 in Poland and 201,000 in Germany).[7] This is still a substantial share, as the number of students in preschool and school educational institutions of Ukraine at the beginning of the 2021/2022 academic year was 5.4 million (1.1 million in kindergartens and 4.3 million in schools), according to the State Statistics Service of Ukraine. While around 1 million Ukrainians below the age of 18 reside in Poland and Germany, not all potential students have started their studies in a new country as many continue education remotely in Ukraine.

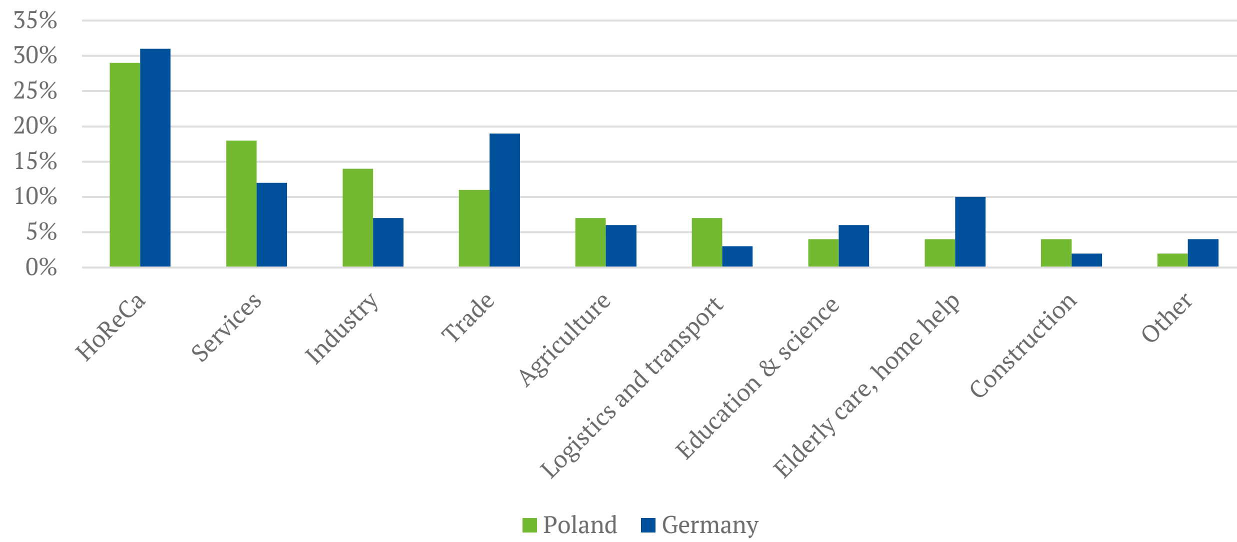
[6] This figure includes displaced Ukrainians in the aggressor countries, Russia and Belarus. According to UN data, up to 2.9 million refugees from Ukraine have been registered in those countries. Data as of December 6, 2022.

[7] According to the ministries of education of the respective countries.

**In the previous version of the study another data was reported, but we can no longer confirm its validity.*

Ukrainian refugees are ready to work and invest in the economy of the host countries. For example, as of September 2022, 430,000[8] and 160,000[9] Ukrainian refugees had already found employment in Poland and Germany, respectively. In general, two-thirds of adult Ukrainian refugees in Poland are ready to work.[10] The latest polls show that every fifth adult Ukrainian refugee is already employed in Germany.[11] Ukrainians found work mainly in the hospitality industry and the service sector (Fig. 17). A significant part (up to 20%) continues to work remotely in Ukraine.[12]

Figure 17. Employment of Ukrainian refugees in Poland and Germany by sector.



Notes: Share of employed adult Ukrainian refugees that came to the country after 24 February 2022. The sociological survey was conducted in June 2022; the sample is 400 people in each country.
Source: EWL study "Ukrainian refugees – vocational activation in Germany and in Poland".

Ukrainian refugees mostly have higher or vocational education. A survey of Ukrainian refugees conducted in Germany by the Federal Ministry of Internal Affairs and Communities showed that 73% of all adult

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[8] According to the data of the Ministry of Social Policy of Poland, as of September 2022.

[9] According to the German ifo Institute for Economic Research, as of September 2022.

[10] According to the UN sociological survey of Ukrainian refugees in Poland in June-August 2022. https://data.unhcr.org/en/documents/details/97052

[11] Tetyana Panchenko and Panu Poutvaara: "Intentions to Stay and Employment Prospects of Refugees from Ukraine," EconPol Policy Brief 46 November 2022.

https://www.econpol.eu/publications/policy_brief_46

[12] According to the sociological survey Kantar "The Voice of Europe", 2022.

http://www.kantarpublic.com/inspiration/centre-kantar-public-sur-leurope/voice-of-ukraine respondents had a higher education;[13] the results of another survey in Germany estimate 60% of adult refugees as having a university degree and 30% vocational training.[14] At the same time, Ukrainian refugees are more educated than the average Ukrainian: in 2021, 54% of the working-age population in Ukraine had higher education.[15]

According to OECD estimates, Ukrainian refugees can increase the EU labour force by 0.5% by the end of 2022, and even more so in the countries that have welcomed the largest number of people in proportion to their population: +2.2% in the Czech Republic, +2.1% in Poland and +1.9% in Estonia.[16] The overall estimated impact on the labour force is about twice as large as that of the 2014-17 inflow of refugees to the European Union.

Ukrainian refugees mainly chose a country for refuge where they already had friends or relatives, while educational opportunities for children, social benefits and cultural proximity were of secondary importance for them (Fig. 18).

Data on the number of Ukrainians who lived in countries most popular among Ukrainian refugees before the start of the full-scale invasion also point to the key role of social networks. According to estimates, 322,000 Ukrainians (2018) lived in Germany, 236,000 (2021) in Italy, and 115,000 (2020) in Spain. A total of 1.7 million Ukrainians resided in European countries as of 2020.[17]

Sociological polls show that at least two-thirds of Ukrainians displaced abroad plan to return to Ukraine.[18] Most people plan to return as soon as the war ends and it is safe to do so (perhaps within a few years), although many would like to return sooner (Fig. 19). 80% of Ukrainian refugees admit they feel homesick and miss their relatives and friends.[19]

[13] According to the sociological survey Kantar "The Voice of Europe", 2022.

http://www.kantarpublic.com/inspiration/centre-kantar-public-sur-leurope/voice-of-ukraine

[14] EWL study "Ukrainian refugees - vocational activation in Germany and in Poland", 2022.

https://ewl.com.pl/en/report-ukrainian-refugees-vocational-activation-in-germany-and-in-poland/

[15] According to the State Statistics Service of Ukraine.

[16] OECD. The potential contribution of Ukrainian refugees to the labour force in European host countries, July 2022. https://www.oecd.org/ukraine-hub/policy-responses/the-potential-contribution-of-ukrainian-refugees-to-the-labour-force-in-european-host-countries-e88a6a55/

[17] According to estimates by the UCL Center for Research and Analysis of Migration.

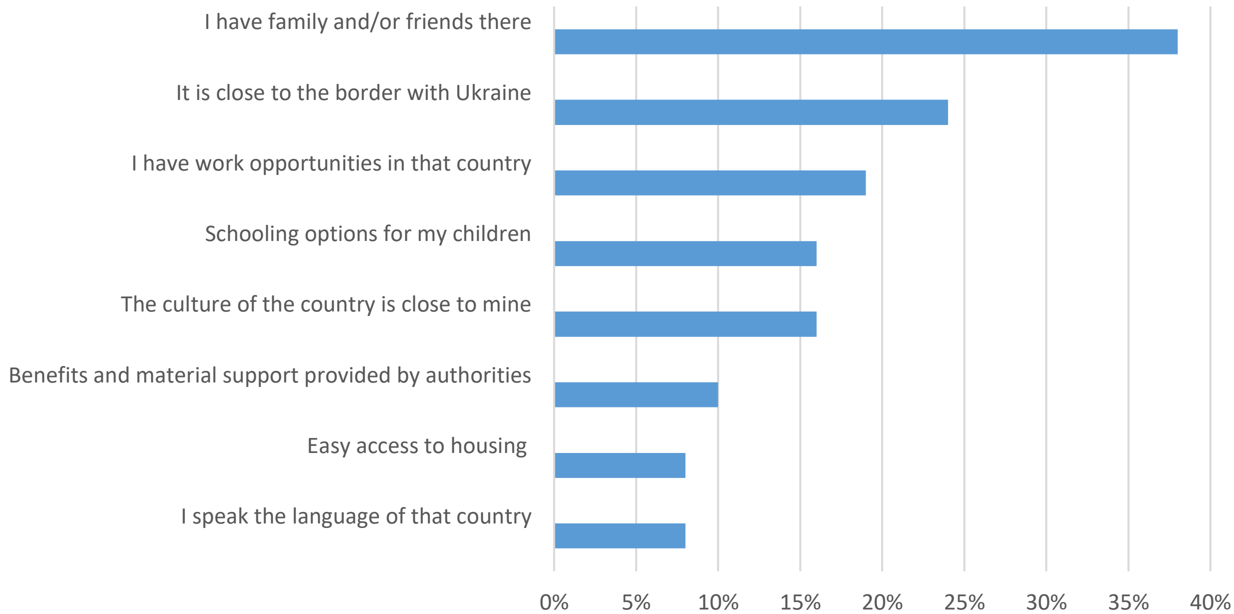
https://cream-migration.org/ukraine-detail.htm?article=3538

[18] 65% according to the Kantar sociological survey, 64% according to the results of the UN sociological survey of Ukrainian refugees in Poland, 76% according to the results of the Razumkov Center survey.

[19] According to the sociological survey Kantar "The Voice of Europe", 2022.

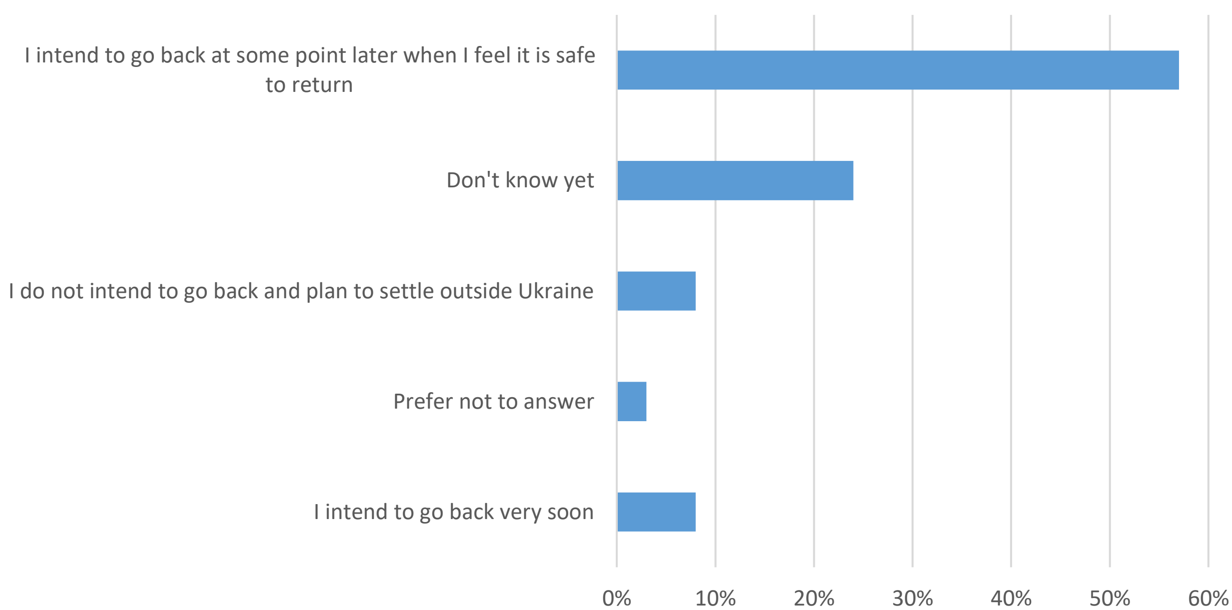
http://www.kantarpublic.com/inspiration/centre-kantar-public-sur-leurope/voice-of-ukraine

Figure 18. Reasons for choosing a country of refuge among Ukrainian refugees



Note: the online survey was conducted in June-July 2022; the sample is 2,600 people in 27 European countries.
Source: Kantar poll "The Voice of Europe", 2022.

Figure 19. Intention to return home among Ukrainian refugees



Note: the online survey was conducted in June-July 2022; the sample is 2,600 people in 27 European countries.
Source: Kantar poll "The Voice of Europe", 2022.

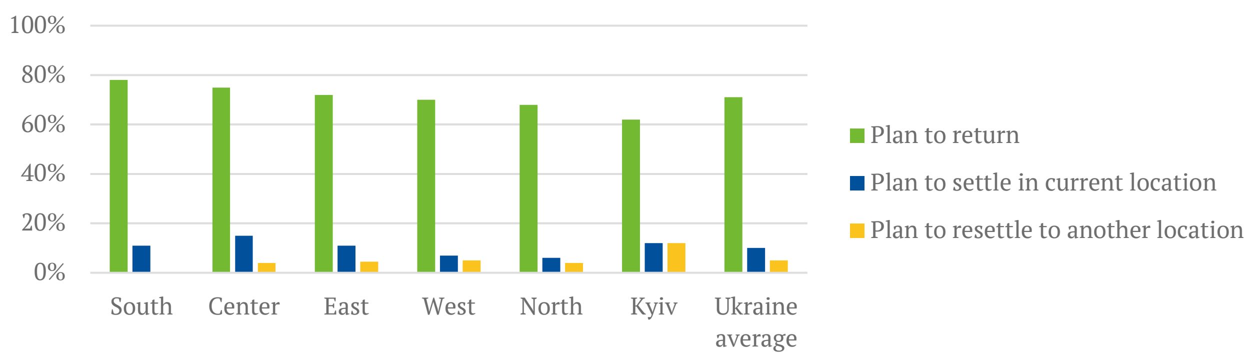
Internally displaced Ukrainians

Up to 6.5 million Ukrainians remain internally displaced, and the figure has barely changed since March 2022. About 3.5 million[20] Ukrainians received official IDP status, allowing them to receive social assistance from the state and international organisations.

People are moving from the most dangerous regions of the east and south, where fighting continues, to the calmer central and western regions; half a million IDPs have found a new home in the capital.[21]

However, with the beginning of massive Russian shelling of civilian energy infrastructure, even regions far from the borders of the aggressor country are not considered entirely safe. Despite this, more than 70% of IDPs plan to return home (Fig 20).

Figure 20. Intentions regarding further steps among IDPs by macro-region of the current place of stay



Note: Estimates of the number of internally displaced persons and returnees are based on the results of a sociological survey by the International Organization for Migration and are approximate. The survey was conducted in October 2022; the sample consisted of 2,002 respondents.
Source: International Organization for Migration.

The situation with work and income among internally displaced Ukrainians is improving slightly but remains worse than the average for Ukraine. While in the summer of 2022, up to 40%[22] of working-age IDPs reported not working, recent surveys put the figure at 31%. However, the employment level among IDPs also remains low: according to the same study, 34% of IDPs are currently employed, and another 7% have

[20] IOM. Ukraine — Displacement report, area baseline report (raion level), round 17 (14 - 25 Nov 2022). https://displacement.iom.int/reports/ukraine-displacement-report-area-baseline-report-raion-level-round-17-14-25-nov-2022

[21] According to the latest estimates of the International Organization for Migration.

[22] IOM. Ukraine — Internal displacement report, general population survey, round 8 (17 - 23 August 2022). https://displacement.iom.int/reports/ukraine-internal-displacement-report-general-population-survey-round-8-17-23-august-2022

their own business (41% in total). For comparison, 57%[23] of people nowadays have a job in Ukraine. A significant proportion of IDPs (84%) lost their previous job due to the war, while the average for Ukraine is 50%, according to the latest Gradus survey.[24]

Ukrainians are returning home, but it is challenging to estimate how many. The flow in the reverse direction, from abroad to Ukraine, accelerated in the summer and at the beginning of the school year in September 2022.[25] Often displaced Ukrainians return home to collect some of their belongings and see their relatives and friends. Using a sociological survey, the International Organization for Migration (IOM) estimates that up to 5.9 million Ukrainians could have already returned from other regions of Ukraine or from abroad. On average, internally displaced Ukrainians are away from home for 168 days. Among the main motives for returning among those who have come back home is reunification with family and friends (35% of respondents). Security concerns are the most important reason for not returning among those who continue to be internally displaced (72% of respondents).[26]

Unemployment and labour market developments

The situation on the Ukrainian labour market remains tense. The Ministry of Economy estimates the number of unemployed people in Ukraine at 2.6 million as of December 2022 (and this will grow to 2.8 million people in 2023, according to forecasts).[27] This is half as much as the last and only estimate of the absolute level of unemployment in Ukraine by the International Labour Organization in May 2022 (up to 5 million).[28] At the same time, only 215,000 people[29] have officially registered as unemployed, which is even less than during the COVID crisis and does not reflect the actual situation in the country.

The National Bank of Ukraine estimates the level of unemployment at 30%[30] and predicts its partial decrease next year, with persisting labour market imbalances.[31] Such estimates are close to the results of

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[23] Gradus. Міграція та соціально-політичні настрої під час повномасштабної війни росії против України, дванадцята хвиля дослідження, жовтень 2022.
https://gradus.app/uk/open-reports/

[24] Gradus. Міграція та соціально-політичні настрої під час повномасштабної війни росії против України, дванадцята хвиля дослідження, жовтень 2022.
https://gradus.app/uk/open-reports/

[25] According to UNHCR.

[26] IOM. Ukraine — Internal displacement report, general population survey, round 10 (17 - 27 October 2022).
https://displacement.iom.int/reports/ukraine-internal-displacement-report-general-population-survey-round-10-17-27-october-2022

[27] РБК. У Мінекономіки назвали реальну кількість безробітних в Україні, 3 грудня 2022р.
https://www.rbc.ua/rus/news/minekonomiki-nazvali-realnu-kilkist-bezrobitnih-1670066561.html

[28] ILO. The impact of the Ukraine crisis on the world of work: Initial assessments, May 2022.
https://www.ilo.org/europe/publications/WCMS_844295/lang--en/index.htm

[29] According to the State Employment Service of Ukraine.

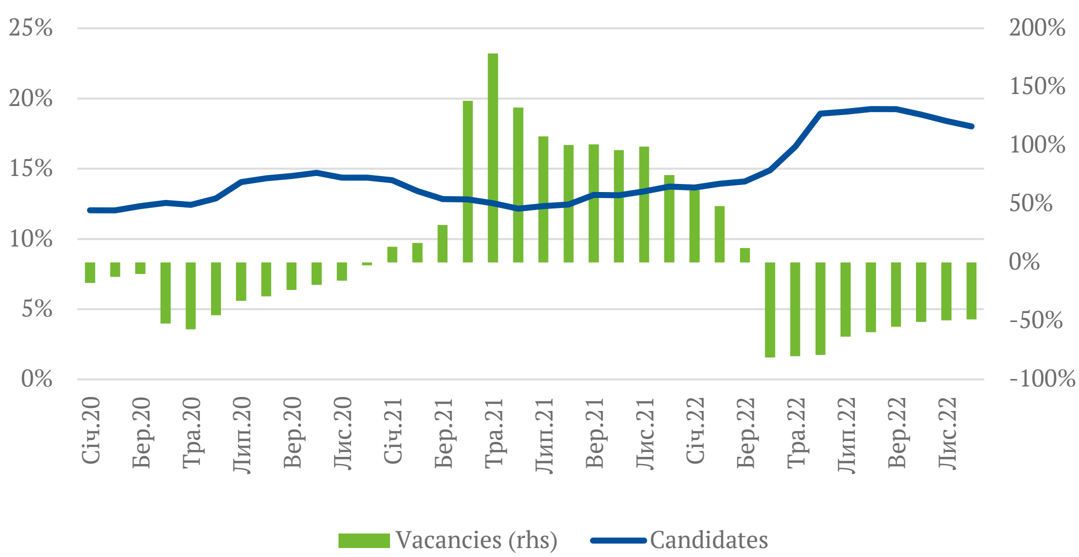
[30] National Bank of Ukraine. Inflation report, July 2022.
https://bank.gov.ua/en/news/all/inflyatsiyniy-zvit-lipen-2022-roku

[31] National Bank of Ukraine. Inflation report, October 2022.
https://bank.gov.ua/en/news/all/inflyatsiyniy-zvit-jovten-2022-roku

recent sociological surveys. According to the October Rating survey, 34%[32] of working-age respondents are unemployed, while more than half (57%)[33] have a job, according to the November 2022 Gradus survey.

The employer's market continues to dominate in Ukraine. Although the number of vacancies has increased compared to the spring, it remains several times (depending on the sector) less than before the full-scale aggression. At the same time, the number of job seekers has skyrocketed and remains high (Fig. 21). The market for IT professionals remains depressed and companies show significantly less demand for new employees than the number of active candidates, according to Djinni, a job search portal in IT (Fig. 22).

Figure 21. Dynamics of the number of vacancies and candidates on the work.ua portal, % y-o-y

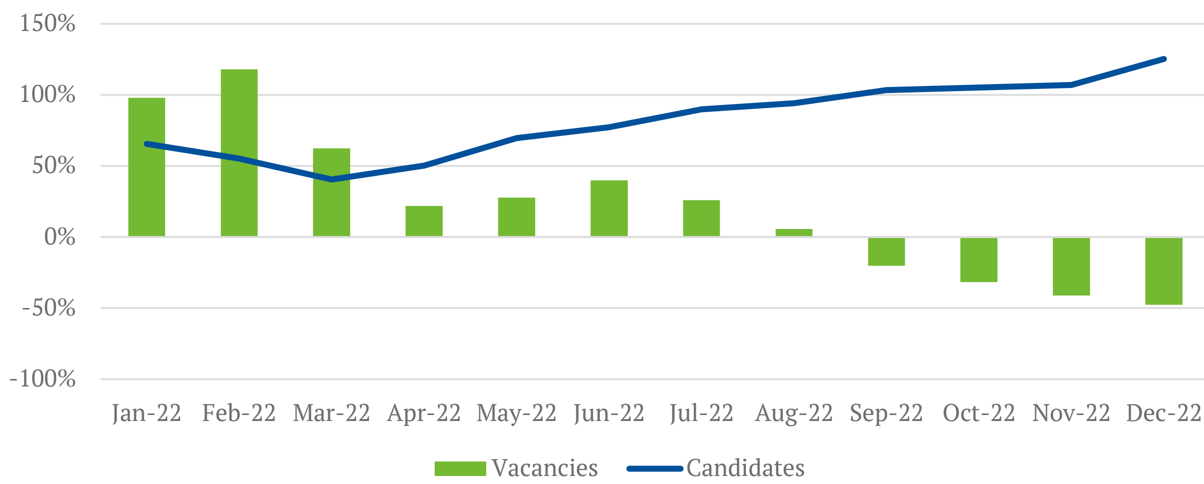


Note: as of early December 2022, there were 4.0 million resumes and 47.9 thousand vacancies in the portal system.
Source: work.ua.

[32] Рейтинг. Вісімнадцяте загальнонаціональне опитування: психологічні маркери війни, жовтень 2022р.
https://ratinggroup.ua/research/ukraine/vosemnadcatyy_obschenacionalnyy_opros_psihologicheskie_markery_voyny_8-9_oktyabrya_2022.html

[33] Gradus. Міграція та соціально-політичні настрої під час повномасштабної війни росії проти України, дванадцята хвиля дослідження, жовтень 2022.
https://gradus.app/uk/open-reports/

Figure 22. Dynamics of the number of vacancies and candidates on the IT portal Djinni, % y-o-y



Note: as of early December 2022, there were 59,000 candidates and 16,300 vacancies in the portal system.
Source: Djinni.

The war is causing a contraction in both nominal and real incomes of Ukrainians. As the financial resilience of enterprises remains compromised, employers open vacancies with a lower wage level and reduce or do not increase the wages of existing staff. 77% of Ukrainians acknowledge their income decreased compared to January 2022, before the invasion. 81% of those who work continue to get paid, but almost half are unsure they will receive income in the future.[34] Even among IT specialists, 40% fear being fired.[35]

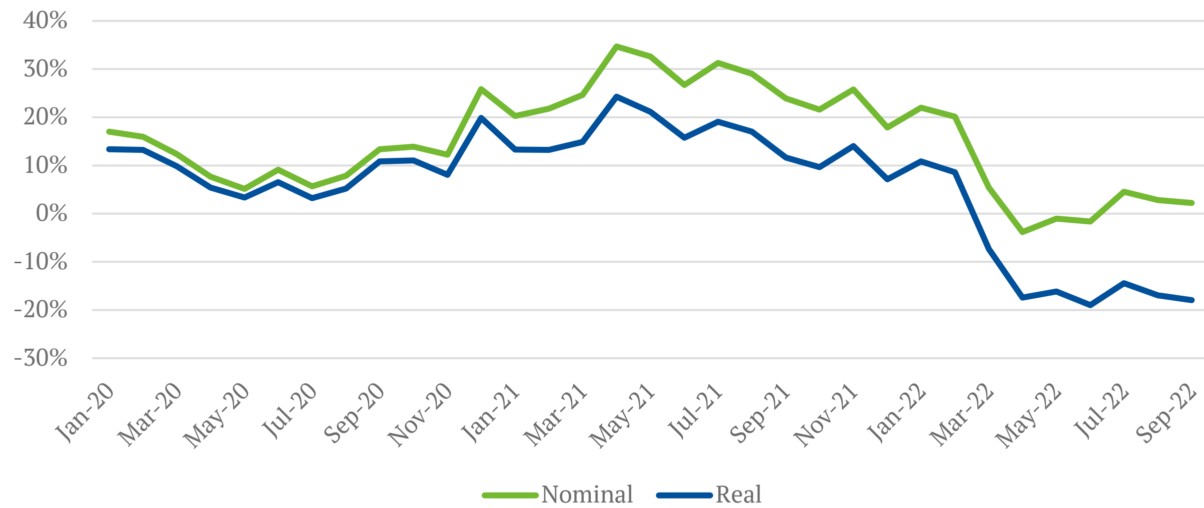
The State Statistics Service of Ukraine stopped publishing data on average wages due to difficulties in collecting information by region. However, the Pension Fund of Ukraine releases the average wage levels on which the social security premium is paid. According to these data, nominal wages in Ukraine decreased by 5% compared to January 2022, which, amid the current high inflation,[36] means a substantial wage reduction in real terms (-21%) (Fig. 23).

[34] Gradus. Міграція та соціально-політичні настрої під час повномасштабної війни росії проти України, дванадцята хвиля дослідження, жовтень 2022.
https://gradus.app/uk/open-reports/

[35] DOU. 40% бояться звільнення. Як програмісти (і не тільки) шукають роботу у 2022-му, 29 вересня 2022р.
https://dou.ua/lenta/articles/job-survey-results-2022/

[36] In October 2022 inflation reached 26.6% in annual terms.

Figure 23. Average salary in Ukraine from which social security premium is paid, % y-o-y



Note: the month-on-month consumer price index is used to calculate real wage changes, CPI value as of January 2019 = 1. As of September 2022, the average salary was UAH 13,387.5.
Sources: Pension Fund of Ukraine, National Bank of Ukraine, CES calculations.

According to Sense Bank (formerly Alfa Bank) transactions data estimates, the real wage contraction between February and October 2022 reached 11% (nominal wages increased by 3%), while wages in the private sector decreased more than in the public sector.[37] Research conducted by the grc.ua portal[38] also points to this trend: employers are opening vacancies with much lower salaries in IT, senior management and consulting – sectors where wages were usually the highest on the market. At the same time, according to the study, positive dynamics in the proposed salary are observed for administrative staff vacancies, in the automotive business and HR.

[37] Blinov, O and S Djankov (2022), "Ukraine's wages and job loss trends during the war", VoxEU, 17 November 2022. https://cepr.org/voxeu/columns/ukraines-wages-and-job-loss-trends-during-war

[38] Мінфін. Ринок праці: хто у вересні заробляв найбільше, а кому зарплати зрізали, 4 жовтня 2022р. https://minfin.com.ua/ua/2022/10/04/93320877/