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UKRAINE MACROECONOMIC HANDBOOK

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Introduction and Assumptions

This forecast covers Ukraine's macroeconomic trajectory for 2024-27 in the context of ongoing Russian aggression, but also taking into account current and future opportunities for the country once the war comes to an end. Projections rely on the Quarterly Projection Model (QPM) for the majority of the macroeconomic indicators, with accounting-based modeling used for external, fiscal, and real sectors as well—accompanied by expert assessments of issues related to current and future policy implementation.

The transparent discussion of assumptions allows readers to adjust key forecast indicators based on their own beliefs. Assumptions are a challenge given the extraordinary situation that Ukraine's economy—and, in fact, the country as a whole—has been facing for two-and-a-half years. The assumptions used here are based on expert judgments by the KSE Institute team and summarized in Table 1 below.

The core assumption is a cessation of the full-scale war by the end of 2025, followed by a significant decrease in foreign assistance in 2026-27. We assume that the war in its current state will stop by the end of 2025 and that it will be followed by a low-intensity conflict or full cessation of hostilities. The division between committed and expected financial assistance shown below is necessary to provide a nuanced view of the current situation, with the latter being used for forecasting purposes. Importantly, our baseline scenario does not include the recently-announced €35 billion macro-financial support package by the EU (i.e., Extraordinary Revenue Acceleration Loans initiative or ERA) as details on terms and timeline are yet to be determined. More information on the ERA can be found in Special Feature 1. We take a closer look at how our forecast aligns with the scenarios of the Ukraine Plan in Special Feature 2.

Table 1. Key assumptions

	2021	2022	2023	2024	2025	2026	2027
War intensity	Low int.		Full-scale			Low intensity	
Committed financial assistance, $ billion (expected assistance)	7.5	32.6	42.4	38.4 (39.2)	15.2 (27.2)	10.4 (21.5)	1.3 (13.8)
Net electricity exports, TWh	1.8	1.8	-0.4	-5.3	-6.3	-3.2	0
USD/EUR exchange rate, avg.	1.18	1.05	1.08	1.09	1.09	1.08	1.08

Risks to the forecast include the future trajectory of the war as well as budget, trade, and labor-related issues. First and foremost, the full-scale war could extend beyond 2025 and additional destruction, especially to the energy infrastructure, in 2024-25 or beyond would have a noticeable impact on the recovery of Ukraine's economy (see Special Feature 3). Less favorable external conditions and higher defense spending would also create additional financing challenges. Uncertainty also exists as far as further financing from international partners, including the U.S., is concerned. While the EU's €35 billion assistance package, which relies on proceeds from immobilized Russian assets, would alleviate financing pressures markedly, additional support is urgently needed to finance the budget over the forecast period of 2025-27. Full confiscation of Russian assets abroad and their provision to Ukraine is also still a possibility albeit unlikely in the near term. According to latest surveys, the return of Ukrainian refugees is also uncertain even after the end of the full-scale war and every additional year of the war worsens the situation—with significant implications for labor supply and productivity during the recovery period. Finally, geopolitical risks such as tensions in the Middle East could have an impact on Ukraine's external environment.

Summary of Forecast

The key takeaway is that, at the current pace of the recovery, Ukraine's economy will be lagging behind its convergence to average EU levels for key economic indicators in the coming 5-10 years. Drivers of this dynamic are a too-slow pickup in investment and trade, unpredictable external financing, and insufficient productivity gains. Effectively, every year of the full-scale war sets Ukraine back another half year on its convergence path. To fundamentally change this and realize the objectives of the Ukraine Plan (see Special Feature 2), it is critical to stimulate investments from the currently forecasted $140 billion over 2025-27 to around $200 billion, boost exports of goods and services, and ensure budgetary stability.

Additional external financing commitments from bilateral and multilateral partners are needed. Over 2025-27, a total of $90 billion in assistance is required vs the current outlook of $62.5 billion and fixed commitments of only $27 billion. This funding is needed for Ukraine to be able to finance current spending, including on the war and social protection, and make the necessary public investments to boost growth. For 2025, committed external financing stands at only $15 billion compared to a projected fiscal deficit of around $40 billion. Thus, $25 billion will be required to ensure that needs are fulfilled. We believe that it is impossible for the country to raise these amounts from domestic sources. For 2026-27, the combined budget deficit is expected to reach around $50 billion. However, only $12 billion in budgetary assistance from partners are committed at this point—resulting in a remaining fiscal financing gap of close to $40 billion.

These financing needs are expected to materialize despite a relatively optimistic growth outlook. Importantly, our forecast already assumes a robust recovery in economic activity and, thus, tax revenues, in 2026-27 after the end of the full-scale war. Fundamentally, even after a cessation of hostilities, military spending will have to remain elevated compared to the pre-2022 period and put pressure on the budget. The recently-announced €35 billion ERA macro-financial assistance package by the EU (see Special Feature 1) would close the fiscal financing gap partially, but additional funding sources are required.

Table 2. Forecast for key indicators

	2021	2022	2023	2024e	2025f	2026f	2027f
Nominal GDP, UAH billion	5,451	5,239	6,538	7,617	8,711	10,008	11,680
Real GDP growth, %	3.4	-28.8	5.3	3.9	3.6	5.2	6.5
Headline inflation, % avg	9.4	20.2	12.9	5.8	8.8	8.5	7.2
Headline inflation, % eop	10.0	26.6	5.1	8.9	7.3	9.1	6.3
Exchange rate (USD), % avg	27.3	32.3	36.6	40.1	44.5	48.0	48.6
Exchange rate (USD), % eop	27.3	36.6	38.0	42.6	46.5	48.4	48.6
Policy rate, %	7.5	18.6	22.4	13.7	13.0	11.9	11.0
Current account, $ billion	-3.8	8.0	-9.7	-13.9	-20.9	-16.3	-18.9
Unemployment rate, %	9.9	20.6	18.2	14.1	13.3	12.3	11.4
Nominal wage, UAH avg	13,994	14,858	17,434	21,100	23,388	25,909	28,898
Budget balance, UAH billion	-193	-918	-1,386	-1,245	-1,836	-1,203	-1,182

Ukraine's real GDP will be ~10% lower than its pre-full scale-invasion level by 2027. Private and government consumption will boost growth in 2024-25, while investment will become the key driver of the post-war recovery. Net exports will shift from negative to positive contributions by 2026, further supporting growth, while government spending will drop sharply and private consumption will contribute less due to the high war-period base. Due to the population decline, per-capita GDP is set to rise above its 2021 level.

Inflation will remain above the National Bank of Ukraine's target until 2027. In 2024-25, rising wages and high producer price inflation will be the key contributors to upward price pressures as they increase production costs and spill over into consumer prices. Energy prices will be elevated due to a large reliance on imports as a consequence of infrastructure destruction. Hryvnia depreciation will also drive up prices for imported goods. In the post-war period, the recovery will lead to rising inflationary pressures again.

The Hryvnia is expected to depreciate by around 10% annually during the war before stabilizing. Stable financial support would ensure the NBU's ability to keep the exchange rate on this trajectory. An additional €35 billion from the EU may also contribute to a stronger currency depending on the support package's specifics and timeline. The policy rate will gradually decrease to 11% by 2027, in line with the NBU mandate. The central bank is unlikely to resort to interest rate hikes to control inflation.

Ukraine's current account deficit will widen, peaking at $20.6 billion in 2025, driven by declining international grants as partners shift their assistance towards loans. Goods exports are forecast to grow by 53% over 2023-27, with imports rising by 40%. The services balance will improve significantly by 2027, aided by reduced travel-related payments. A decline in committed financial assistance will create some external financing challenges and, thus, reserve losses, particularly in 2025. However, the new €35 billion support package recently announced by the EU would go a long way to address such issues.

Budget deficits will remain substantial over the forecast period. Tax revenues are expected to rise steadily, with VAT contributing significantly. However, defense spending will remain high as long as the full-scale war continues, leading to a budget deficit peaking at 21.1% of GDP in 2025. As the war subsides, non-military spending will take precedence, with the government seeking new loans to cover financing gaps. Deficits will decline markedly in 2026-27 but national debt will stay elevated above 100% of GDP.

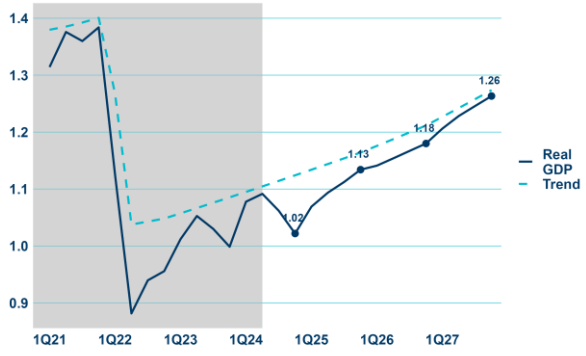
Unemployment will remain high, with gradual improvements after the end of the full-scale war as the economic recovery supports the labor market and some inactive workers drop out of the labor force. Wage growth, driven by labor shortages due to migration and mobilization in 2024-25, will continue to exert upward pressure on prices and support private consumption before moderating in 2026-27.

Economic Activity

Ukraine's real GDP will steadily recover in the coming years and be ~10% lower than its 2021 level in 2027. Following the large drop in economic activity in 2022 due to the start of Russia's full-scale invasion (-28.8%), Ukraine's economy is expected to continue its recovery (see Figure 1). The pace is lower than in 2023 (5.3%) due to the massive destruction of energy infrastructure in early 2024. We expect real GDP growth to pick up markedly after the end of the full-scale war (after 2025). Due to a large population drop (~15%), this will result in higher real GDP per capita compared to pre-2022. Productivity improvements—a key driver of growth—are a consequence of capital investments related to recovery projects.

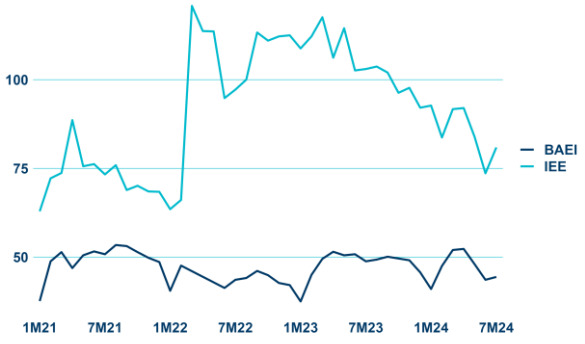
The deterioration of economic expectations stopped in the middle of the summer of 2024. The difficult situation in January 2024—both in terms of the war and a lack of support from some international partners—was followed by a record disbursement of $9 billion in foreign aid in March, which substantially improved the outlook (see Figure 2). Yet, the damage that Russian attacks caused to Ukraine's energy infrastructure early in the year led to much more negative expectations expressed in surveys and reflected by high-frequency economic indicators. Their recent rebound may be a sign of the recovery picking up pace, which will support GDP growth in Q4. However, the energy situation remains challenging (see Special Feature 3).

Figure 1: Real GDP and trend, index



Source: Ukrstat, KSE Institute

Figure 2: Economic expectations, index



Source: NBU, Info Sapiens, KSE Institute

As the war comes to an end, we expect a change in the key drivers of economic growth. Government consumption will continue to support activity in 2024-25 but become a net negative contributor thereafter as war spending declines markedly (see Figure 3). The contribution from private consumption will decline after adding 5.2pp to growth in 2024. Current dynamics are largely driven by high wage growth (of above 14% in real terms) due to migration and mobilization constraining the supply of skilled workers to the labor market. In 2024-25, investment will still weigh on growth. However, following the end of the full-scale war, it will become the key driver of Ukraine's recovery. This will be due to the capital spending of Ukrainians as well as stronger direct investment inflows from abroad. Net exports, which weighed heavily on activity in 2022-23, will be a positive contributor to growth over the forecast period, especially in 2026, the first post-war year. Figure 4 shows the decomposition of real GDP growth by economic activity over the forecast period.

Figure 3: Real GDP growth and exp decomposition, %

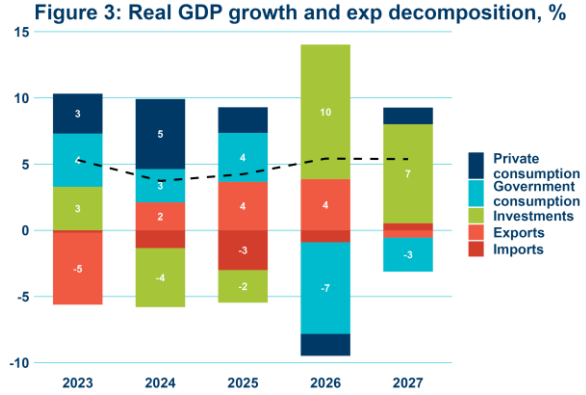
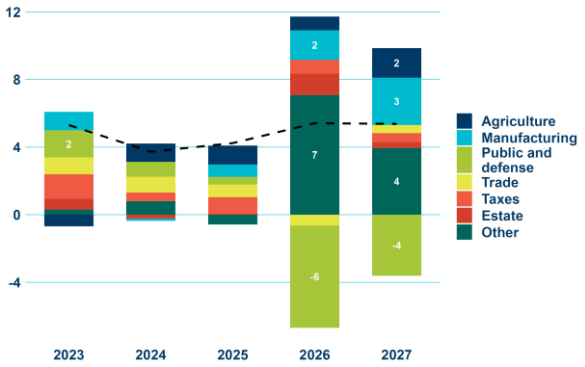


Figure 4: Real GDP growth and EA decomposition, %

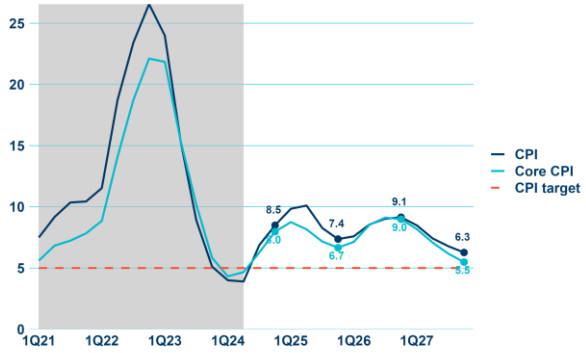


Price Dynamics

Inflation will be above the target level of 5%±1pp until 2027 for several reasons. Headline inflation dropped in 2024 and remained below the NBU's target for the first half of the year (see Figure 5). In the second half, it began to rise again due to: (i) high producer price inflation (PPI) translating into an increase in prices for households; (ii) rising wages increasing household demand for many products and companies' reduced profit margins; and (iii) higher reliance on energy imports driving up prices. While the energy effect is expected to subside in 2025 as more capacity is restored, administrative prices will continue to put upward pressure on inflation as further tariff increases are needed. We expect inflation to increase once again in 2025-26 as the economic recovery gains steam following the end of the full-scale war.

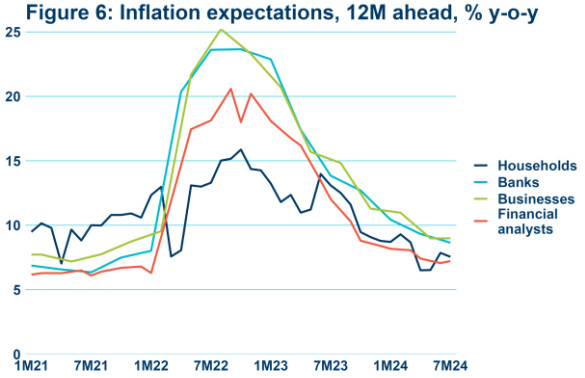
Inflation expectations have persistently decreased for 1.5 years. Along with actual inflation readings, expectations by all economic actors—households, banks, businesses, and financial analysts—have been falling as well (see Figure 6). However, they remain somewhat elevated vs. the pre-full-scale invasion period, especially as far as businesses and analysts are concerned. This reflects that inflationary pressures are rising again and will make it more difficult for the NBU to move inflation closer to its target.

Figure 5: Inflation and core inflation, % y-o-y



Source: Ukrstat, KSE Institute

Figure 6: Inflation expectations, 12M ahead, % y-o-y



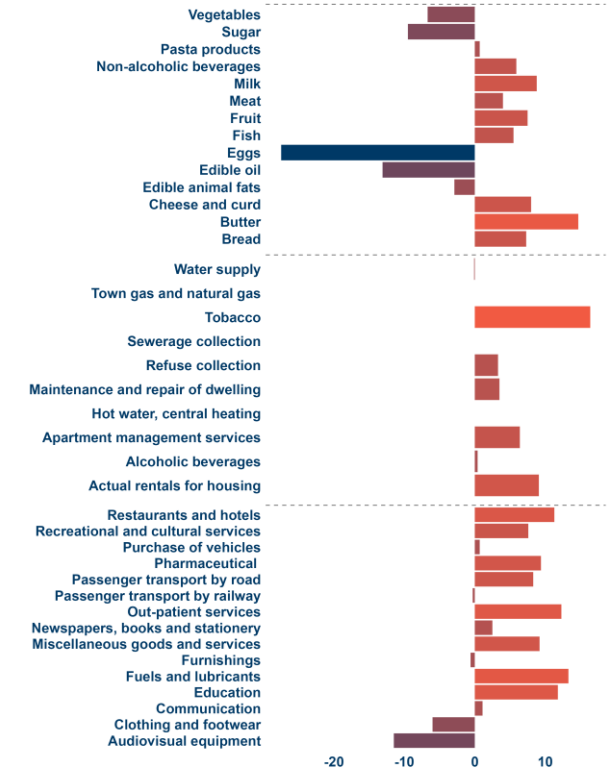
Source: NBU, KSE Institute

Price changes for different food categories are balanced in comparison with the Jan-Aug period of 2023, leading to 1-2% growth overall. Vegetables were the key driver of lower food prices in 2023 and have declined further this year (see Figure 7). At the same time, prices for meat, fish, milk, and fruit are offsetting downward pressure from eggs and vegetables. In the coming years, food prices are set to grow due to several factors including large increases in producer prices, energy shortages, import prices, wage growth, and labor force issues.

Administratively regulated prices are rising significantly, with up to 15% growth altogether. Electricity prices grew by a dramatic 67% after the June 1 increase of tariffs; yet, they are much lower than in most EU countries. The hike decreased the gap between a "fair price" and market prices but has not closed it entirely. Thus, we expect further growth.

Services and some other components are also putting upward pressure on inflation. This is likely to continue due to the convergence of service prices and increases in wages.

Figure 7: Inflation for components in Jan-Aug, % y-o-y



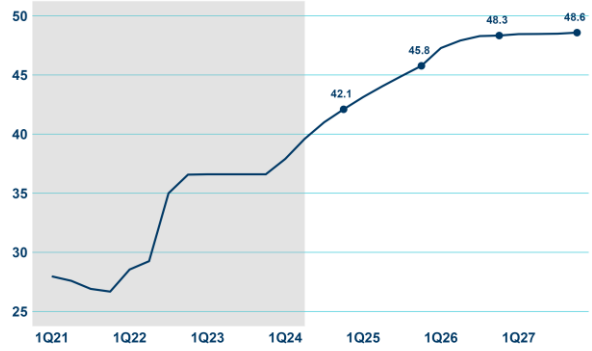
Source: Ukrstat, KSE Institute

Monetary Policy

The exchange rate will slowly depreciate by around 10% each year of the full-scale war and then stabilize due to offsetting pressures. With a limited ability and willingness to use the policy rate to control inflation, the NBU will likely rely on interventions in the foreign exchange market to prevent excessive depreciation and inflationary pressures from import prices. The UAH/USD exchange rate will rise above 48 by 2026 and subsequently stabilize (see Figure 8). The relative unattractiveness of the hryvnia for foreign investors (due to risk premia) will remain high until the end of the war and gradually decrease thereafter.

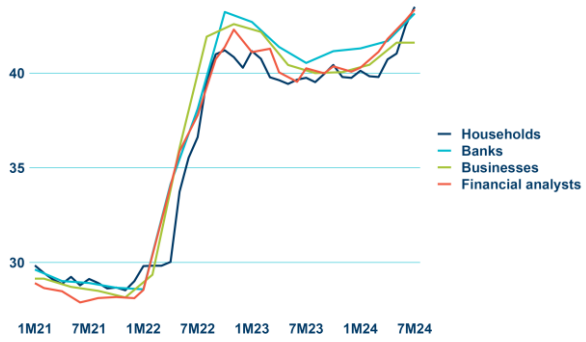
Most economic actors expect that the exchange rate will rise to 43-44 UAH/USD next year. Despite stable expectations in 2023Q1-2024Q1, the exchange rate has been steadily depreciating following the NBU's decision to transition to a managed floating regime. This has also led to a shift in expectations (see Figure 9). Households, who tend to be more optimistic than other economic actors (who are obliged to be more careful), saw worsening expectations— from 40 to 43.25 UAH/USD in just 5 months. This is indicative of negative pressure (from energy sector destruction) that influences household decisions.

Figure 8: Exchange rate, UAH/USD



Source: Ukrstat, KSE Institute

Figure 9: Exchange rate expectations, 12M ahead

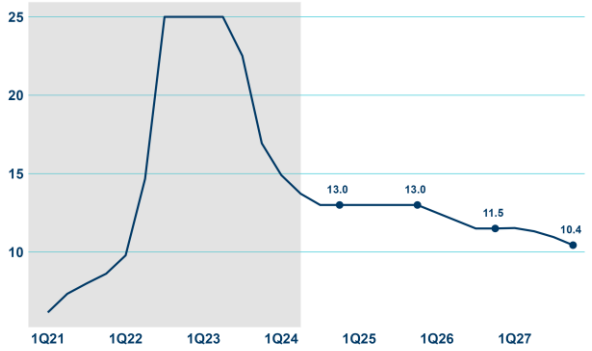


Source: NBU, KSE Institute

The NBU will not increase interest rates during the forecast period, but rather gradually lower the key rate to 11% by the end of 2027. This differs from the NBU's outlook from the July 2024 Inflation Report due to higher inflation and less room for rate cuts. It is unlikely that the policy rate will increase due to the signaling effect that this would inevitably have (see Figure 10). It could even worsen both inflation and exchange rate expectations, and alter the behavior of economic actors, thereby creating additional inflationary pressures. The most likely outcome is a flat (or slightly decreasing) rate until the end of the war.

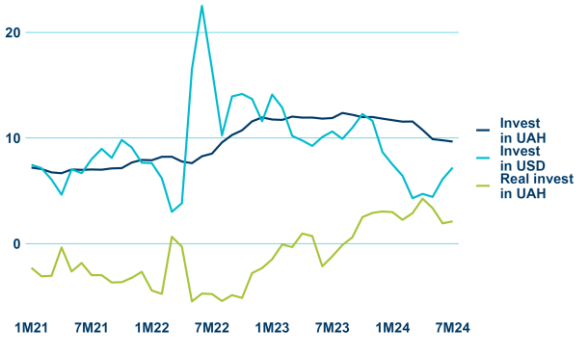
Hryvnia-denominated deposits have been more attractive for Ukrainian households since the start of 2023. To calculate profitability, we account for income taxes and, in the case of USD-denominated deposits, exchange rate devaluation expected by households (see Figure 11). In real terms (accounting for household inflation expectations), the attractiveness of Hryvnia deposits is higher starting from the middle of 2023, creating incentives for savings instead of consumption (contractionary monetary policy).

Figure 10: Policy rate, %



Source: NBU, KSE Institute

Figure 11: Profitability of UAH vs USD deposits, %



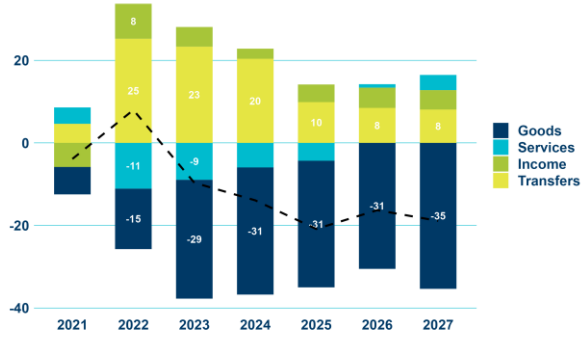
Source: Ukrstat, KSE Institute

External Sector

Ukraine's current account deficit is projected to widen in 2024-25 before stabilizing in 2026-27—reaching 14.8 billion in 2024 and $20.6 billion in 2025 after 9.7 billion in 2023 (see Figure 12). Developments towards the end of the forecast horizon are driven by two key factors: external conditions will become more favorable following the end of the full-scale war, leading to increased trade in goods, an improved services balance, and higher remittances. At the same time, the level of financial assistance from international partners, particularly in the form of grants, is expected to decline significantly—a development which is already expected to materialize in 2025 with important implications for the external financing gap.

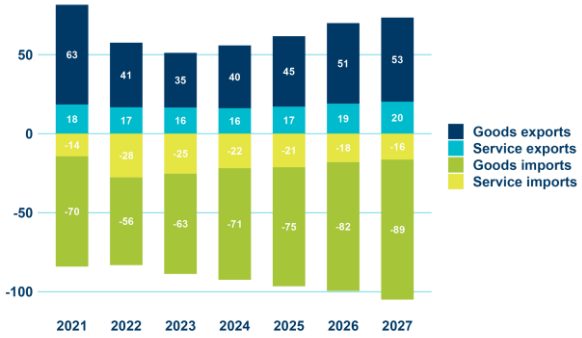
A noticeable recovery in goods exports and imports is anticipated during the forecast period. Goods exports are projected to increase by a cumulative 53% in 2027 ($53.2 billion) vs. 2023 ($34.7 billion) with double-digit growth in 2024-26 (see Figure 13). Key drivers are the continued adaptation of Ukraine's export-oriented economy during the war, a bounce back in production after the end of hostilities, and the removal of logistical barriers (e.g., grain corridor, border disputes). Import growth will be somewhat lower in percentage terms—a cumulative 40% in 2027 ($88.6 billion) vs. 2023 ($63.5 billion)—but the change in U.S. dollars will be bigger due to a higher base, leading to a somewhat bigger trade deficit, especially in 2027.

Figure 12: Current account and components, $ billion



Source: Ukrstat, KSE Institute

Figure 13: Exports and imports, $ billion



Source: Ukrstat, KSE Institute

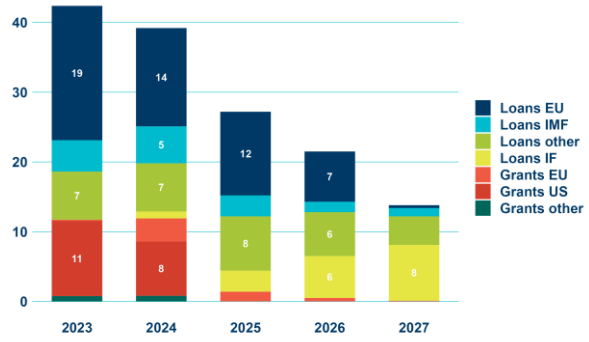
Ukraine's services balance is expected to improve significantly in the coming years—from a $8.9 billion deficit in 2023 to $5.9 billion and $4.3 billion deficits in 2024-25, before turning to $0.8 billion and $3.7 billion surpluses in 2026-27. This change is primarily due to a reduction in payments related to travel services, which have been a major factor since 2022 as a result of the increased number of Ukrainians living abroad. Total services imports are projected to gradually decrease from a peak of $27.7 billion in 2022 to $16.5 billion in 2027—close to this indicator's pre-Covid readings. A faster adjustment is unlikely as the return of Ukrainian refugees will also take time. Services exports have registered a smaller decline compared to goods exports as a result of the full-scale invasion but are nevertheless set to rise by 23% in 2027 vs. 2023—the likely loss of further (natural gas) pipeline transport receipts notwithstanding.

The income surplus is expected to grow, while smaller grants will reduce the transfers surplus. The former will be positively affected in 2025-27 by rising remittances after falling to $2.5 billion in 2024. In 2022-23, Ukraine benefitted from a pause in some interest payments on external debt, which reduced debits considerably. At the same time, a noticeable decline in foreign grants is already reducing the secondary income (i.e., transfers) surplus and is projected to continue doing so in the coming years as partners increasingly shift their support to loans (see Figure 14). Grants are projected to reach $11.9 billion and $1.4 billion in 2024-25 before falling to below $0.5 billion per year in 2026-27. Strong private transfers from abroad will nonetheless provide some support, keeping the surplus at elevated levels vs pre-2022.

Non-resident capital flows are projected to decline over the forecast period driven by decreasing loans from Ukraine's partners. Foreign direct investment will remain broadly stable at $5.0 billion per year in 2024-25 as the full-scale war continues, but improve meaningfully in 2026-27 to $7.5 billion and $10.0 billion, respectively. Foreign investors are likely to re-enter the Ukrainian domestic sovereign debt market by 2026-2027 and a return to the Eurobond market is anticipated for 2027. Improved investor sentiment is also reflected in a significant decrease in risk premia for Ukrainian assets. As a result, portfolio inflows will

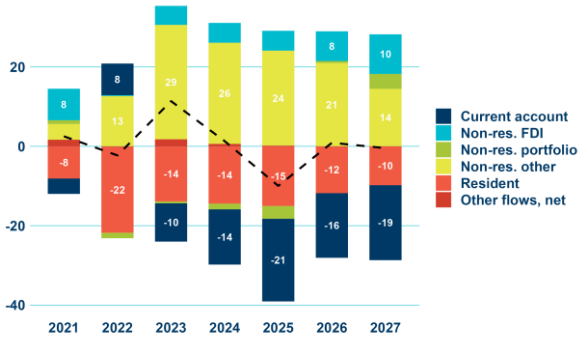
return in 2026 ($0.5 billion) and 2027 ($3.8 billion) after four years of continued outflows. The most important driver of capital flows is foreign loans, which have financed a significant share of external and budget needs since the start of the full-scale invasion. They are projected to decline, however, from $30.7 billion in 2023 to $27.3 billion in 2024, $25.8 billion in 2025, $21.0 billion in 2026, and $13.7 billion in 2027. Resident capital outflows, another major factor impacting Ukraine's financial account balance, will moderate as the intensity of the war subsides—from $13.9 billion in 2023 to $9.8 billion in 2027.

Figure 14: Grants and loans, $ billion



Source: Ukrstat, KSE Institute

Figure 15: Drivers of change in reserves, $ billion



Source: Ukrstat, KSE Institute

International reserves will drop significantly due to shifts in the balance of payments, with the largest financing gap of around $10 billion appearing in 2025 (see Figure 15). This year, support from partners will be sufficient to allow for a small reserve gain (of $1.3 billion), while improved external conditions will keep reserves broadly stable in 2026-27. Addressing the 2025 financing gap will require additional support from international partners, with the EU's recently announced €35 billion package (see Special Feature 1), funded by proceeds from sanctioned Russian reserves, providing a possible solution. In this scenario, reserve levels would be satisfactory over the entire forecast period and also provide support to the Hryvnia exchange rate.

The global macroeconomic situation will continue to stabilize after turbulences in 2021-23. The inflation spike experienced in many countries—a consequence of quantitative easing during Covid, supply chain disruptions, and the post-pandemic recovery—has ended in most places and many central banks such as the Fed and ECB have started lowering interest rates. Oil prices are expected to decrease due to, among other things, weak demand from China, which faces an economic slowdown, but geopolitical tensions, especially in the Middle East, could lead to temporary increases. The FAO Food Price Index (FFPI) reached its trough in 2024 and is expected to remain flat in real terms yet slowly increase in nominal ones.

Table 3. External sector forecast

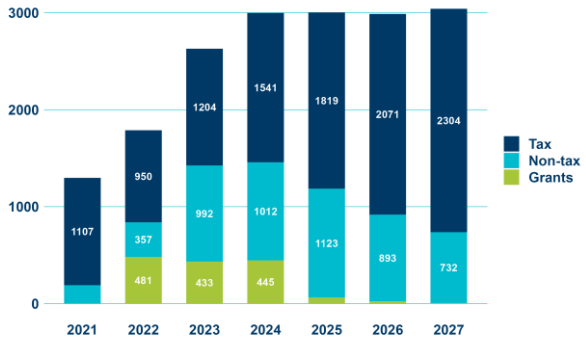
	2021	2022	2023	2024e	2025f	2026f	2027f
External accounts, $ bn							
Current account balance	-3.8	8.0	-9.7	-13.9	-20.9	-16.3	-18.9
Goods balance	-6.6	-14.7	-28.8	-30.8	-30.7	-30.5	-35.4
Exports	63.1	40.9	34.7	39.8	44.6	51.0	53.2
Imports	69.8	55.6	63.5	70.6	75.3	81.5	88.6
Services balance	4.0	-11.1	-8.9	-5.9	-4.3	0.8	3.7
Primary income balance	-5.8	8.5	4.8	2.5	4.3	4.9	4.7
Secondary income balance	4.6	25.2	23.3	20.4	9.9	8.5	8.1
Non-resident capital flows	12.9	11.5	33.2	29.0	25.7	29.0	28.2
Resident capital flows	8.1	21.6	13.9	14.4	15.0	11.8	9.8
Change in reserves	2.5	-2.3	11.4	1.3	-10.0	0.9	-0.5
External environment							
EU GDP, % avg	4.6	5.0	4.4	3.4	3.1	3.1	3.7
EU inflation, % avg	3.2	9.7	5.7	2.6	2.0	2.1	2.1
Fed interest rate, % avg	0.1	1.7	5.0	5.1	3.8	3.2	3.1
FAO Food Price Index, avg	126	145	125	119	122	129	133
Brent oil price, $/bbl avg	71	99	82	81	75	68	73

Fiscal Sector

Tax revenues will grow steadily in 2024-27 while grants and non-tax revenues will decrease. VAT will play a dominant role in tax revenue growth, accounting for nearly half. This is due to the reconstruction of infrastructure and rapid growth in domestic production and imported goods. Personal and corporate income taxes will also remain critical, contributing nearly a third of total tax revenues (see Figure 16).

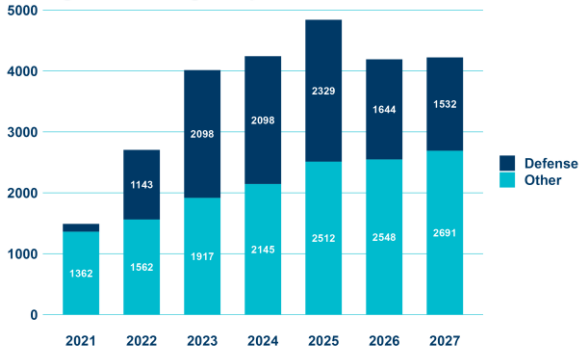
Expenditures will decline in 2026-27 due to a drop in defense spending as the full-scale war ends. While defense spending will drive record-high budget expenditures in 2025, reductions are expected as the war comes to an end (see Figure 17). Non-military sectors will continue to exert pressure on public finances, however. Expenditures in the areas of social protection, healthcare, and education are expected to reflect the government's focus on saving state funds and reducing deficits in the face of financing pressure. After significant increases in prior years, funding for these sectors will either remain flat or decrease slightly.

Figure 16: Budget revenues, UAH billion



Source: Ukrstat, KSE Institute

Figure 17: Budget expenditures, UAH billion



Source: Ukrstat, KSE Institute

The budget deficit is expected to remain high throughout the forecast period, with the peak in 2025 at 21.1% of GDP, driven by reduced foreign grants and continuously elevated military expenditures. The budget deficit w/o grants is rather stable throughout 2022-25. While domestic revenue collection will rise and defense expenditures decrease in 2026-27, this will not be enough to fully compensate for the loss of external aid, leading to a substantial fiscal financing gap. The government hopes to fill it through additional loans, including a proposed €35 billion package from the EU secured by seized Russian assets.

In 2026-27, while the deficit is expected to decrease sharply in GDP terms, Ukraine will still require approximately UAH 1 trillion annually in financing. This pattern is aligned with our estimates regarding balance of payments flows and prospective reserve losses. It will keep the national debt at elevated levels (more than 100% of GDP), with debt servicing obligations placing significant pressure on the budget that will not be covered by revenue growth due to the anticipated acceleration in the economic recovery.

Table 4. Fiscal sector forecast

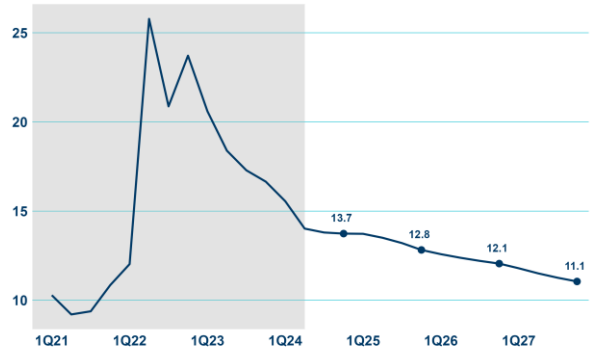
	2021	2022	2023	2024e	2025f	2026f	2027f
Total revenues	1,297	1,788	2,629	2,998	3,005	2,989	3,041
in % of GDP	23.8	34.1	40.2	39.4	34.5	29.6	26.0
Tax revenues	1107	950	1,204	1,541	1,819	2,071	2,304
Non-tax revenues	189	357	992	1,012	1,123	893	732
Foreign grants	1	481	433	445	62	24	5
Total Expenditures	1,490	2,705	4,015	4,243	4,841	4,192	4,223
in % of GDP	27.3	51.6	61.4	55.7	55.6	41.6	36.2
Defense	128	1,143	2,098	2,098	2,329	1,644	1,532
Overall balance	-193	-918	-1,386	-1,245	-1,836	-1,203	-1,182
in % of GDP	-3.5	-17.5	-21.2	-16.3	-21.1	-11.9	-10.1
Balance excl. grants	-195	-1,399	-1,819	-1,690	-1,898	-1,227	-1,186
in % of GDP	-3.6	-26.7	-27.8	-22.2	-21.8	-12.2	-10.2

Labor Sector

The downward trajectory of the unemployment rate is expected to continue. It has been declining continuously since peaking at 21.1% in mid-2022 (see Figure 18). We expect the unemployment rate to approach 10% by the end of the forecast period. Dynamics are driven by two factors: an increase in the number of employees and the dropping out of the labor force of some inactive persons.

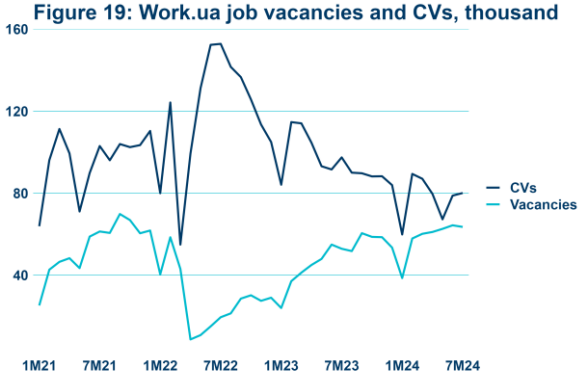
The amount of vacancies is growing despite the shrinking population. According to data from work.ua—one of the largest job platforms with more than 4.5 million CVs in 2024—the amount of vacancies is growing steadily (see Figure 19). This finding is in line with our general assessment of labor supply shortages, especially with regard to professionals and experienced workers, that exist due to mobilization and migration. On the other hand, the number of new CVs is decreasing.

Figure 18: Unemployment rate, %



Source: Ukrstat, Info Sapiens, KSE Institute

Figure 19: Work.ua job vacancies and CVs, thousand

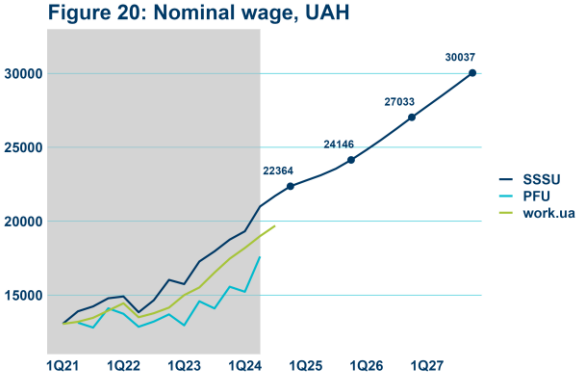


Source: Work.ua

The scarcity of skilled workers, driven by both migration and military mobilization, has pushed employers to compete more fiercely for workers, driving up wage growth in 2024. Real wages fell sharply by 11.3% in 2022 but rebounded by 3.6% in 2023 and grew by a remarkable 14.1% in 2024, partially due to comparatively low inflation throughout the year. In the coming years, wage growth will stabilize with a moderate increase to take place during the post-war recovery period in 2026-27. Data from the Pension Fund of Ukraine (PFU), which is based on the amount of corresponding taxes, generally shows smaller gains in nominal terms yet has similar dynamics to the SSSU data, which strengthens our conclusions about upward wage pressures in 2024Q2 (see Figure 20). The dynamics of wages on work.ua also correspond to the dynamics by the SSSU.

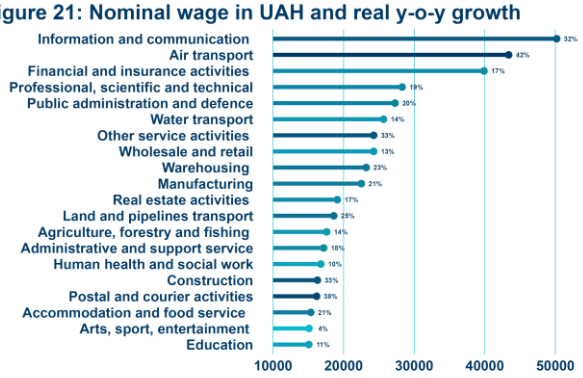
Wage increases are expected to diverge across sectors, reflecting broader economic and labor market trends. Sectors connected to the military, such as IT, air transport, and construction, saw the highest growth due to the scarcity of labor and de-shadowing of wages in order to attract workers (see Figure 21). Social sectors such as education, arts, sports, and health are lagging behind in nominal and real terms as they are predominantly funded by the budget and, thus, constrained by the fiscal stance.

Figure 20: Nominal wage, UAH



Source: Ukrstat, KSE Institute, work.ua

Figure 21: Nominal wage in UAH and real y-o-y growth



Source: Ukrstat, KSE Institute

Special Feature 1: EU Support

Extensive discussion about use of Russian assets for Ukrainian reconstruction have taken place. Since right after the start of Russia's full-scale invasion of Ukraine in February of 2022, Russian sovereign assets, including most importantly reserves of the central bank (CBR) located in coalition jurisdictions, have been immobilized due to sanctions. And an extensive discussion has occurred over how these funds could be used to provide financial assistance to Ukraine during the war and pay for reconstruction. In parallel, a conversation took place about the conditions under which this support should be provided. While a use of the frozen assets themselves appears unlikely at least in the near term, Ukraine's partners have instead opted to leverage extraordinary profits derived from them to provide loans to Ukraine.

The EU announced additional macro-financial assistance (MFA) of €35 billion based on the proceeds from immobilized Russian sovereign assets in September. During her most-recent visit to Kyiv, European Commission President Ursula von der Leyen announced that the EU would provide a total of €35 billion under a mechanism called the Extraordinary Revenue Acceleration Loans (ERA) initiative to address urgent budgetary needs and ensure long-term, stable financial support for Ukraine's resilience and recovery.[1] Importantly, this mechanism relies, for the first time, on Russian funding sources. The €35 billion package is the result of extensive discussions since a political commitment was made during the G7 Leaders' Summit and European Council in June. On October 9, the European Council reached an agreement on the ERA and will formally adopt the mechanism in the coming weeks together with the European Parliament. Details of other G7 partners' contributions are still unclear.[2]

Details of funding the mechanism, including its timeline, are yet to be determined. Other partners, including the United States and United Kingdom may contribute additional funding under the Ukraine Loan Cooperation Mechanism, which could increase the overall package to €45 billion (or ~$50 billion). The macro-financial assistance is intended to support urgent budgetary needs in 2024-25 but details about the mechanism and the timeline of disbursements are not completely clear at this point. For this reason, we do not include these funds in our baseline forecast but rather discuss how they would help to close external and fiscal financing gaps, and how they could impact economic activity.

The additional funding package would significantly improve macroeconomic stability. In the external section of this report, we show that, in our baseline scenario, Ukraine would face substantial losses to international reserves (of around $10 billion) in 2025 as a result of challenging balance of payments dynamics while the full-scale war continues. The EU's new MFA package would dramatically reduce such pressures and also protect the exchange rate from faster depreciation. Similarly, Ukraine is facing persistently high budget deficits—20%+ of GDP—during 2024-25, with deficits falling but remaining in problematic territory thereafter—at ~10% of GDP. Additional assistance provided to the state budget would ensure financing of critical spending in the defense sector. In the absence of any limitations in this respect, the ERA would help address serious constraints with regard to war-critical expenditures.

The package will support Ukraine's recovery through several channels.[3] During von der Leyen's press-conference, the following details were discussed: The macro-financial assistance package includes direct budgetary support as well as designated funding for energy sector reconstruction, shelter construction, and purchases of domestic and imported weaponry, including air defense systems. The macroeconomic effect from these items differs considerably. Budgetary support, for instance, can be spent on social programs and private consumption will be strengthened as a result. Construction of energy infrastructure will carry large benefits for business activity, while weapons purchases will either impact the domestic military industry or increase imports. In addition, spending on additional air defense capabilities will protect Ukraine's energy infrastructure and benefit the economy in a broad sense. In the next iteration of our forecast, we will take a closer look at these effects as more details emerge.

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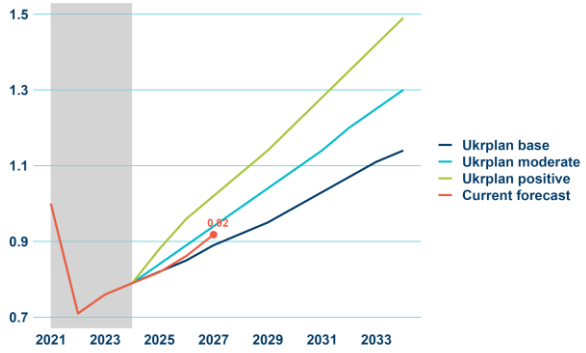
[1] See here.
[2] See here.
[3] See here.

Special Feature 2: Ukraine Plan

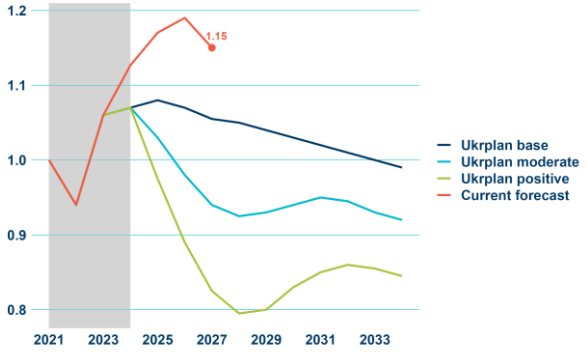
The Ukraine Plan is one of the key documents about Ukraine's perspectives in the long term, specifically the macroeconomic situation in 2023-34. The document was prepared at the beginning of 2024 and included several key assumptions, including about the end of the full-scale invasion at the end of 2024. Unfortunately, this is increasingly unlikely and, thus, we take a different perspective in this document. However, overall macroeconomic projections are overall well aligned.

Figure 22: Real GDP growth, 2021 = 1



Source: KSE Institute, Ukraine Plan

Figure 23: Real effective exchange rate index, 2021 = 1



Source: KSE Institute, Ukraine Plan

Our real GDP growth forecast is broadly consistent with that of the Ukraine Plan. In our forecast, real GDP is projected to be around 10% lower than its 2021 level by 2027. Under the assumption that growth in 2028-29 continues at its 2027 pace, a full return is expected in 2029. This corresponds to the Ukraine Plan's moderate scenario despite the difference in war-related assumptions (see Figure 22). Our 2024 GDP growth is marginally lower than in the Ukraine Plan, which is not unexpected due to the energy system destruction that took place in Q2 2024. Even so, and with an additional year of full-scale war in 2025, 2026-27 GDP will be somewhat higher. The reason is a more optimistic view on the short-term post-war recovery with relatively high growth accompanied and supported by soft monetary policy.

The real effective exchange rate (REER) is meaningfully weaker than in the Ukraine Plan. This stems from both nominal devaluation and unexpectedly low domestic headline inflation in the first half of 2024. Devaluation pressure is a direct result of a longer and more intensive war, which reduces investment attractiveness. Each additional year of war weighs on Ukraine's recovery. In our forecast, REER will strengthen starting in 2027 in line with the Ukraine Plan's moderate scenario as nominal depreciation pressures subside (see Figure 23). Relative productivity of the economy will improve, yet, not as fast as in a scenario assuming an end of the war in 2024.

Special Feature 3: Energy

Russia's large-scale attacks on Ukraine's energy infrastructure have caused extensive damage and severe disruptions regarding to power supply, with long-lasting impacts. By 2024, Ukraine's electricity generation capacity had nearly been halved to approximately 18 GW.[4] This level is barely sufficient to meet peak demand during the winter. Since March 2024, all coal-fired thermal power and hydropower plants in Ukrainian-controlled territories have either been damaged or destroyed. Most thermal power plants have sustained over 80% of critical damage, and hydropower output has declined by nearly 40%. This represents a loss of around 9 GW[5] of generation capacity, part of which cannot be restored, even in the medium term. Damages to the electric power industry alone are estimated at over $11 billion, with $8.5 billion attributed to generation facilities (see Table 5).[6] Extensive scheduled curtailments were introduced for all consumers, except for critical infrastructure needs, earlier this year and lasted until August.

Table 5. Damages to energy infrastructure

Sector	Damages, $ million
Electric power industry	**11,425**
Power generation, total	8,524
Combined heat/power plants	1,433
Thermal power plants	3,588
Nuclear power plants	843
Renewables (+ large hydro)	2,661
Power transmission	2,100
Power distribution	801
Oil and gas sector, including:	**3,331**
Gas transmission	775
Gas distribution	154
Oil production and refining	2,136
Storage of oil and petrol. prod.	266
District heating	**972**
Coal industry	**406**
Energy Total	**16,135**

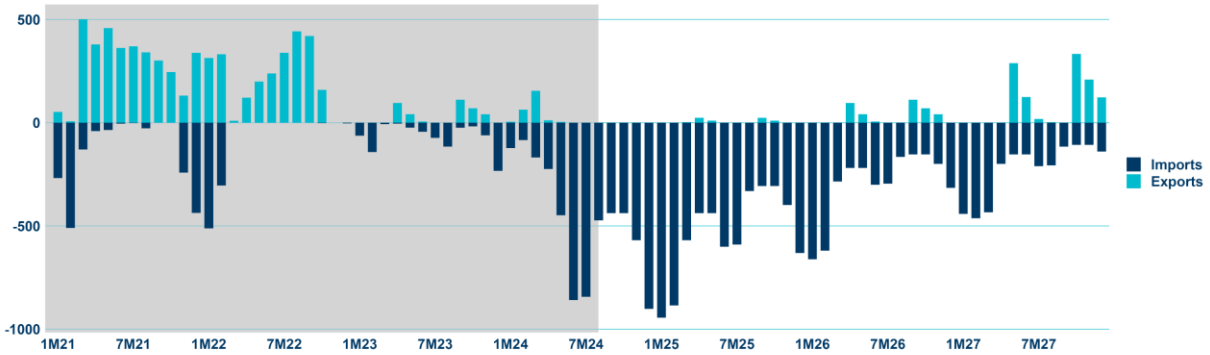
Ukraine's power grid remains highly vulnerable and dependent on electricity imports. Series of Russian attacks have turned Ukraine into a net electricity importer, with an electricity deficit impossible to fully bridge in the short or medium term. From mid-May to August 2024, electricity exports were halted entirely, while imports surged to record highs, at times reaching the commercial limit of 1.7 GW. In just the first seven months of 2024, Ukraine imported 4.1 TWh of electricity, surpassing the combined total for 2021-23 (3.3 TWh). By the end of 2024, we estimate imports to reach nearly 5.6 TWh, or roughly 5% of total demand. With marginal spot prices increased by the regulator and import capacity potentially expanding to 2-2.2 GW, record levels of imports are forecast for the winter of 2024-25. As it will take several years to rebuild the lost generating capacity, high import needs are expected to persist through 2025, reaching a record high 6.4 TWh (see Figure 24). A gradual reduction in import demand is anticipated in 2026 (3.6 TWh), as new generating capacities are to be commissioned.

Due to the time-consuming reconstruction of damaged capacity, a winter 2024-25 electricity shortage with power curtailments for consumers is almost inevitable. Our estimates suggest a deficit during the peak load ranging from 2.8 to 5.3 GW (15-30% of peak demand), depending on further Russian attacks, rebuilding progress, expansion and utilization of electricity import capacity, and weather conditions. The European Commission announced its intent to restore ~2.5 GW of damaged capacity this winter, and there are negotiations to increase import capacity by at least 300 MW.[7]

Ongoing power shortages are exerting significant pressure on Ukraine's economic growth. Electricity imports are contributing to a widening trade deficit, which is putting pressure on the balance of payments and weakening the exchange rate, while rising costs drive up inflation. The annual value of electricity imports is projected to reach over $800 million in 2024 and peak at $1 billion in 2025.

[4] See *Towards a Green Transition of the Energy Sector in Ukraine*, UNDP, 2023 here.
[5] See here.
[6] See *Assessment of Damages and Losses to Ukraine's Energy Sector due to Russia's Full-Scale Invasion*, KSE Institute, 2024 here.
[7] See here.

Figure 24: Electricity trade, MWh



Source: KSE Institute based on the Ukrenergo data

The energy situation has prompted downgrades to forecasts for Ukrainian real GDP growth in 2024—by, on average, 1pp. The electricity situation is one of the key risks to the economic recovery as well as overall macroeconomic stability this year and, potentially, beyond. Electricity prices have surged by 1.5 to 2 times in both forward and spot markets, reaching more than $120 per MWh since June 2024, following a fresh wave of attacks. This has directly impacted retail prices for non-household consumers, especially industry. Industrial inflation soared to 31% year-on-year by August 2024, compared to a 0.4% decline in March 2024 before the attacks commenced. The rise in electricity prices is gradually feeding into consumer inflation, which accelerated to 7.5% year-on-year in August, up from 3.2% in March.[8] Continued pressure on prices is expected, driven by higher electricity costs and the need for businesses to secure backup power sources or invest in private electricity generation.

The experience of businesses adapting to prolonged electricity shortages in 2022-23 provides positive signs regarding the economy's resilience to potential challenges in the coming winter. According to a survey by the American Chamber of Commerce (ACC), 88% of companies feel prepared for possible power outages.[9] Generators are the most common backup power source, with around 86% of companies relying on them. While this reflects a positive level of readiness to maintain at least a minimum supply of electricity, it raises concerns about operational costs.

Electricity generated from traditional diesel generators is extremely expensive—costing, on average, UAH 25 per kWh, which is several times higher than the standard grid electricity tariff. In the short term, until either the centralized energy supply stabilizes or businesses transition to more sustainable and cost-effective energy solutions (such as solar panels, energy storage systems, or small gas-fired generators), prolonged outages are likely to drive up the cost of goods and services and may force businesses to cut costs in other areas, including labor expenses. This, in turn, will exert upward pressure on consumer prices and negatively impact employment.

[8] According to the estimates by the National Bank of Ukraine (NBU).
[9] See here.