

ANALYSIS

Rebuilding the Crossroads of Ukraine: Bridging the Gap Between Damage, Recovery and European Aspirations

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Abstract

Russia first invaded Ukraine 2014, ramping it to full-scale war in February 2022. The end of this war is uncertain, and the price of the continued war is already immense. About 20% of Ukraine's territory has been occupied with the total infrastructural damages amounting to almost its entire 2024 GDP. The combined economic losses and infrastructural damages make up more than 2.5 times of Ukraine's 2024 GDP. Despite the ongoing war, Ukraine is already rebuilding—although at a limited scale—and has so far been able to reconstruct around 4–4.5% of its damaged infrastructure and housing stock. The reconstruction and recovery efforts require joint efforts and coordination from Ukraine and its partners and donors. A huge challenge will be to strike a balance between the urgent reconstruction needs and a more sustainable development path in accordance with the EU *acquis* and sustainability goals.

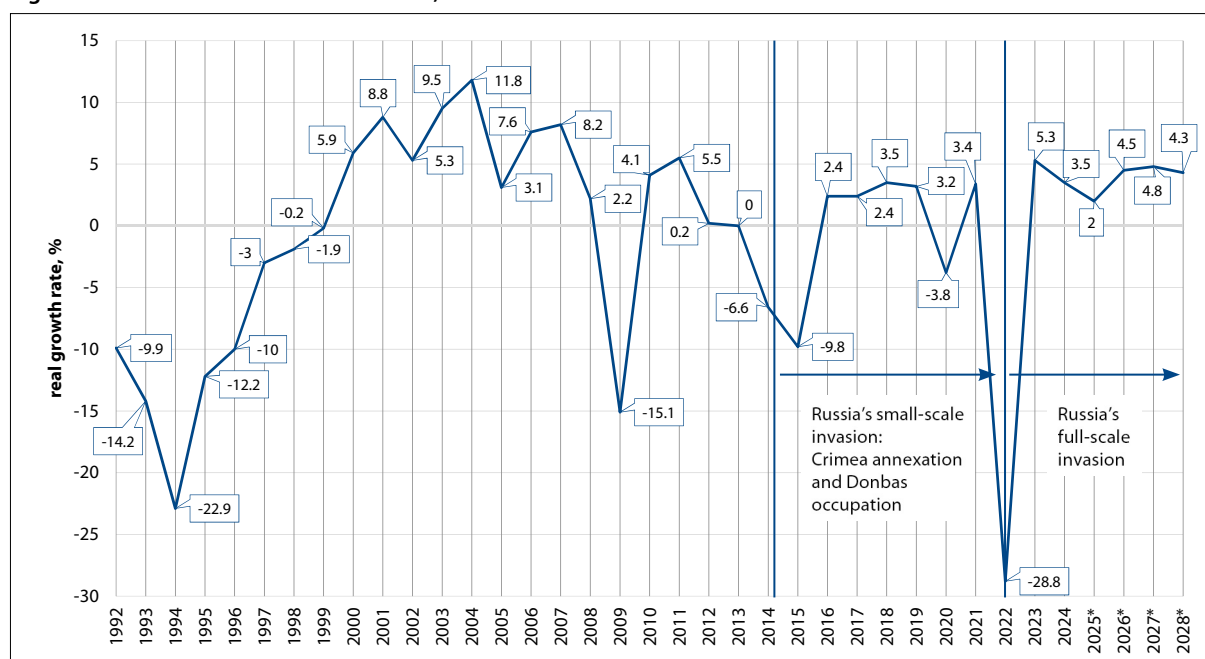
Introduction

Since independence in 1991, Ukraine has experienced four major economic shocks (see Figure 1). During the first half of the 1990s, a deep economic crisis occurred during the transition from a planned economy to a market economy. The next shock was the global financial crisis of 2007/2008. The third shock was Russia's first invasion of Ukraine in 2014 including its annexation of Crimea and partial occupation of Donbas. The largest economic shock, however, came in the wake of Rus-

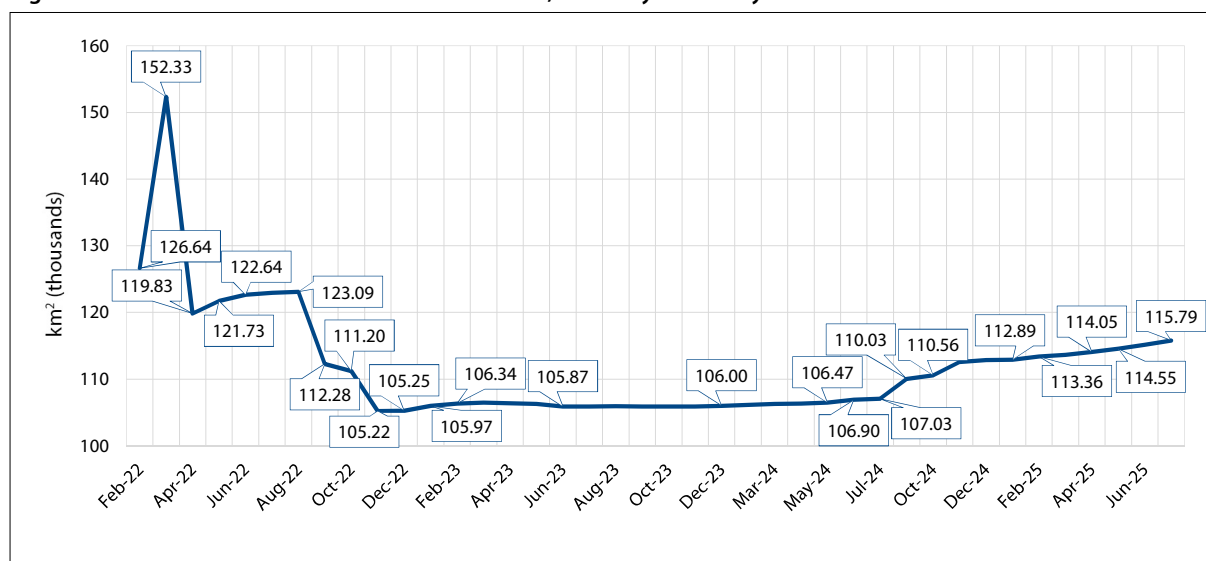
sia's full-scale invasion of Ukraine on February 24, 2022 (Figure 1).

While the full-scale war has raged for more than three years, Ukraine and Russia have been in a deadlock since 2023 (The Economist, 2023) and the front lines have not changed drastically since the beginning of the war in 2022. Developments in 2024–25, however, suggest a gradual push and net territorial gain by Russian troops in Ukraine (Figure 2 on p. 3), with their advancing speed in certain areas reaching just 135

Figure 1: Ukraine's Real GDP Growth, 1992–2008*



Source: author's presentation using IMF data; * forecasted

Figure 2: Russian Net Territorial Gain in Ukraine, February 2022–July 2025

Source: Harvard Kennedy School—the Russia-Ukraine War Report Card as of August 6, 2025; for comparison, the total area of Ukraine is 603 628 sq km

meters per day on average (CSIS, 2025). In other words, Putin's Blitzkrieg in the first days of the war has become a war of attrition (Atlantic Council, 2025) with no end in sight (Figure 2).

On the other hand, with a new administration in the White House—a key Ukraine ally—the US has drastically changed its strategy: from being a key supporter to becoming a more passive or even a potentially negative player. At the behest of the White House, direct negotiations between Ukraine and Russia commenced in May 2025 in Istanbul for the first time since early 2022. Other important personal meetings have continued since, including Trump and Putin's meeting in Alaska and Trump's reception of Zelenskyy and European leaders in White House in August 2025. However, the perspectives are too early to assess.

The price of continuing the war, however, is staggering. More than 20% of Ukraine's territory has been occupied since 2014. Ukraine's GDP plunged by almost 30% in 2022, the largest single year drop in Ukrainian history, with the total damages (USD 176 billion) almost matching its 2024 GDP. The total number of Russian troops killed or wounded since the war began is reported to have reached a million according to Ukraine's official information (Ministry of Defense of Ukraine, 2025). Ukraine's military casualties are reported to be approaching 500,000, with 46,000 Ukrainian soldiers killed, according to the President of Ukraine (Euronews, 2025). At least 12,000

civilians have also been killed and almost 30,000 have been injured since February 2022 (UN, 2025)¹. Moreover, more than 10 million Ukrainians have left their homes, with 7 million of these immigrating as refugees (UNHCR, 2025).

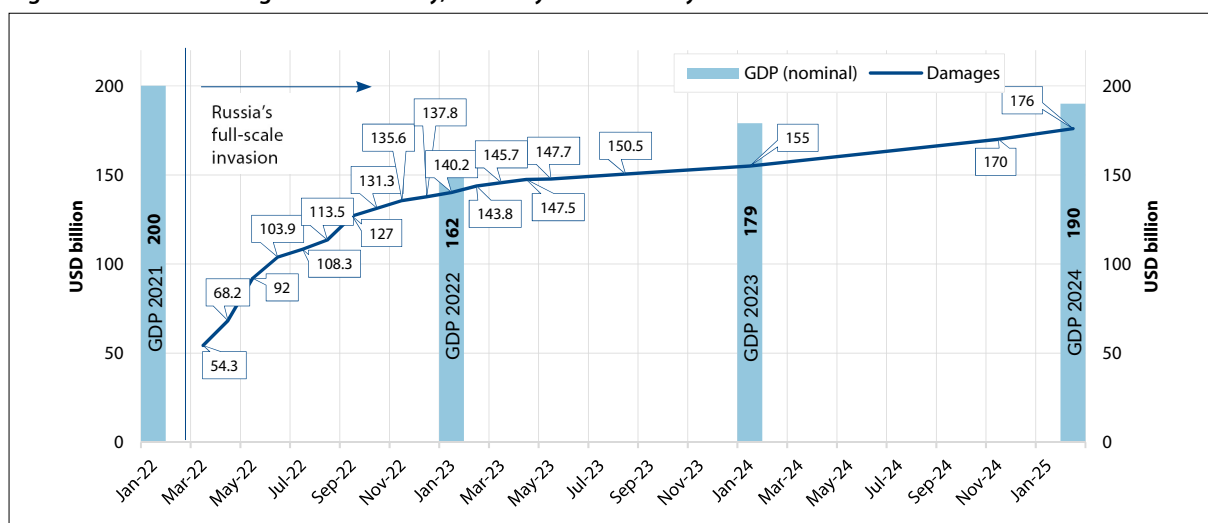
In this paper, we present data on these war-induced damages and losses to Ukraine and discuss the scope and perspectives for reconstruction of Ukraine.

Damages and Substantial Losses

The estimated total of direct damage to Ukraine's economy caused by Russia's full-scale invasion has reached USD 176 billion (at replacement cost) as of January 2025 (World Bank et al, 2025). The pace of the damages is, unfortunately, increasing. While it began to level in early 2023, it has intensified since early 2025 when the US switched strategies (NYT, 2025). The scale of these damages is close to Ukraine's entire 2024 GDP which makes clear that the economic toll is existential for Ukraine. (Figure 3 on p. 4). The damages have been heaviest in the eastern and southern Ukrainian oblasts that have seen the most fighting.

The housing sector has taken the biggest hit at USD 57.6 billion (Figure 4 on p. 4), with 13% of total housing stock damaged or destroyed. About three-quarters (76%) of the housing damage is concentrated in the nine oblasts: Donetsk (37%), Kharkiv (22%), Luhansk (9%), Kyiv (8 percent), Kherson (6%), Kyiv City (4%), Mykolaiv (3%), Chernihiv (3%), Dnipropetrovsk (3%).

¹ The exact number of civilian casualties is not known. Human rights organizations report that in the city of Mariupol alone more than 10,284 bodies were buried in mass graves. There is also information that the death toll in the city of Mariupol might approach 100,000 civilians, as countless bodies were buried under the rubble of the city which was 90 percent destroyed (<https://www.hrw.org/feature/russia-ukraine-war-mariupol>; https://texty.org.ua/d/2023/mariupol_chronicles/).

Figure 3: War Damages and Economy, February 2022–January 2025

Source: author's presentation using the data of the Russia will pay KSE Project, RDNA4, and IMF; damages are accumulated over time since February 2022

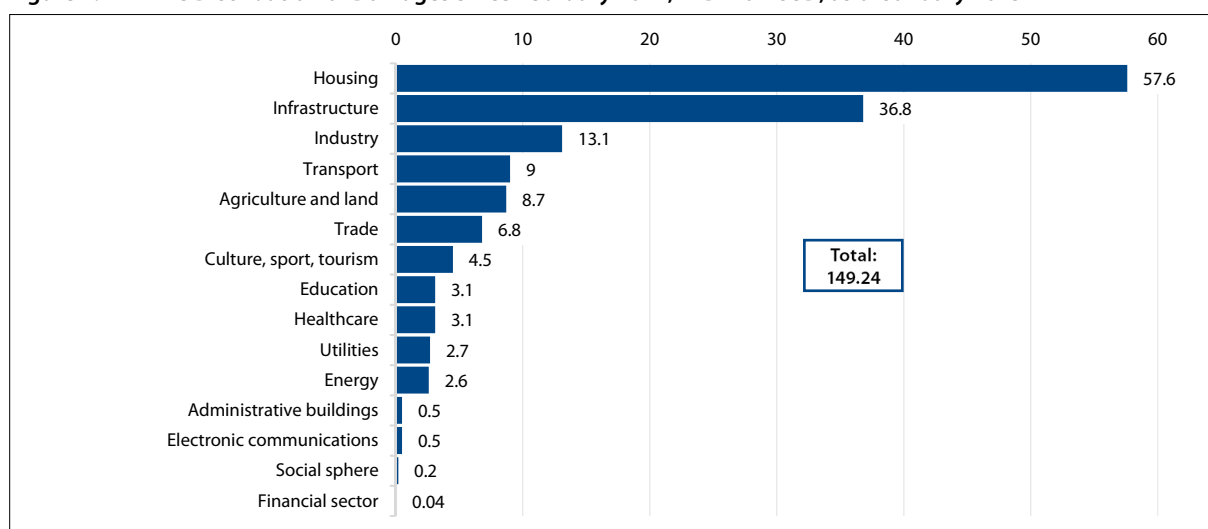
Over half of the impacted units are categorized as having minor damage, while 23% have been considerably damaged or destroyed.

The second largest category of damaged assets is Ukraine's transport infrastructure. This accounts for a loss of USD 36.7 billion. Most of this damage has been to (i) local oblast, village, and communal roads (26%); (ii) railway infrastructure, rolling stock, equipment, and other assets (26%); and (iii) motorways, highways, and other national roads (21%). Four oblasts—Donetsk, Kharkiv, Zaporizhzhia, and Kherson—account for over 60 percent of this damage.

The next largest category of damage is Ukraine's energy and commerce and industry sectors. Damages

to the energy and extractives sector have amounted to USD 20.5 billion, while damages to the industrial sector have amounted to USD 17.5 billion or 28% of the capital accumulated in the sector before the war. At least 426 large and medium-sized private enterprises, as well as state-owned companies, have been damaged or destroyed. The mining and metallurgy sector, in particular, has been hard hit. Some major companies in this sector lost a sizable share of their assets in Mariupol, Zaporizhzhia, and Avdiivka (Ashapova, 2023).

Education has also been significantly affected with damages amounting to USD 13.4 billion. The total number of damaged or destroyed educational facilities exceeds 3,300, including 385 completely destroyed

Figure 4: The Distribution of Damages Since February 2022, in Billion USD, as of January 2025

Source: author's presentation using the data from the World Bank RDNA4 report

assets. School-level infrastructure accounts for most of the damage (45.3%), followed by preschools and research institutions, accounting—respectively—for 30% and 16.1% of damages. These damages are concentrated in the Donetsk, Kharkiv, Kherson, Mykolaiv, Zaporizhzhia, and Kyiv regions.

The total agricultural damages are estimated at USD 11.2 billion or more than 30% of all capital accumulated in Ukrainian agriculture before the war. The largest category within agricultural damages is agricultural machinery accounting for just over half of all agricultural damages.

A separate, but nonetheless important, issue is land destruction caused by mines and the residue of military operations. Ukraine is certainly now the most heavily mined country in Europe, with an estimate of 139 thousand km² or 23% of Ukraine's territory being mined or contaminated by explosive remnants; another 35 thousand km² were demined or cleared as of January 2025 (Babel, 2025). In general, this land loss because of landmines and explosive war remnants is estimated to suppress Ukraine's GDP by USD 11.2 billion each year (Tony Blair Institute, 2024).

The above damages, however, do not include economic losses, which are foregone income of Ukraine's economy due to the war (e.g., disruptions to economic flows and production, a decrease in output prices, and/or an increase in production costs, etc.). The most recent measured total losses amounts to some USD 588 billion (as of December 2024) and reconstruction and recovery needs are estimated at about USD 524 billion (World Bank et al, 2025). This is a staggeringly immense amount, exceeding Ukraine's entire 2024 GDP more than 2.5 times, and far excessive of the USD 101 billion of cumulative FDI since independence.²

Apparently, this suggests that the reconstruction and recovery work will require joint efforts and coordination from Ukraine *and* its partners and donors. These efforts are already leveraged by the Russian central bank reserves that have been frozen and kept 'immobilized' in the West. They are worth between USD 300 - 330 bn and Euroclear (a Belgian central securities depository) manages about USD 200 bn of those assets. In 2024, Euroclear earned roughly USD 7 billion in interest, 25% of which should be retained by the government of Belgium which, in turn, has committed to send to Ukraine. Also, upon a demand from the European Council of Ministers, Euroclear transferred roughly USD 2 billion in July 2024 and made a second similarly sized payment in March 2025 into the European Fund for Ukraine. The frozen

assets potentially could be used for Ukraine's reconstruction and recovery; however, neither the nations of the REPO³ Task Force nor the EU have agreed on seizing the frozen reserves outright (Brookings Institute, 2025).

Ukraine, on average, needs annually about USD 40 billion of external financing (about 20% of GDP) to close its wartime budget deficit and cover its defense and rebuilding/recovery needs. So far, however, only about 60% of these needs are being met, primarily via the ERA (Extraordinary Revenue Acceleration) program, which is the G7 and the EU plan to loan collectively USD 50 billion to Ukraine, which will be repaid with the interest on frozen Russian assets. In 2025, more than USD 18.5 billion has been transferred to Ukraine under the ERA as of July 2025 and USD 22 billion in total. Some further financing pledges were announced during the Ukraine Reconstruction Conference in Rome in July 2025, including a new European Flagship Fund for the Reconstruction of Ukraine that will foster the development of a private equity in Ukraine (European Commission, 2025a). The prospect of fiscal pressure remains even higher for 2026 (Interfax, 2025).

As external financing falls short of the actual needs, reconstruction and recovery will also require substantial reform efforts and political will from Ukraine to improve its investment climate and to facilitate private investments essential not just for reconstruction, but also for long-term economic development (Wessel and Asdourian, 2022). The scope of this enterprise is, in fact—huge—especially considering Ukraine's current efforts towards EU membership. The Ukraine Facility Plan, launched in 2024, partly addresses these concerns, as some of the EUR50 billion in grants and loans to be allocated to Ukraine over 2024–2027 are explicitly linked to the reforms implementation that would align Ukraine with the EU *acquis* (European Commission, 2025b). The overall "reforms deficit" will become clear in the course of 2025 when the EU negotiation clusters will likely be opened and negotiation positions will be formalized (Paul and Taran, 2025).

Reconstruction Efforts So Far

A significant portion of the above-described damages is of critical importance. This means the damaged infrastructure must be partially or fully reconstructed during wartime. The infrastructure for tracking reconstruction and recovery efforts and projects, however, is only emerging. So far, there are two platforms dedicated to tracking reconstruction projects: DREAM (Digital

2 Author's calculation using the World Bank Development indicators data for Ukraine (FDI, net inflows in current USD).

3 REPO—the Rebuilding Economic Prosperity and Opportunity for Ukrainians Act signed by the US President Biden; the Trump administration has not articulated a policy on frozen assets.

Restoration EcoSystem for Accountable Management) and BRP (Big Recovery Portal). DREAM is a large digital database and collaborative effort from state bodies such as Ukraine's State Agency for Reconstruction and Infrastructure Development under the Ministry for Communities, Territories and Infrastructure Development, the local and international NGOs coalition RISE, and international partners including the U.K., GIZ, and until recently USAID. These efforts, among other things, demonstrate the willingness to empower the reconstruction and recovery efforts with a transparency and trust in Ukraine, and to mitigate the risks of corruption. These platforms, however, need bigger databases. A quick cross-check with the information available from various information holders (e.g. presentation of the ministries, agencies, etc.) allows one to conclude that the current databases of the DREAM/BRP are far from being complete, and they are difficult to work with if you want to see the big picture of reconstruction and recovery.

Nevertheless, they are being populated with the expectation of representing the entire portfolio of reconstruction and recovery projects undertaken. The DREAM data, for example, show a total of roughly 13,000 projects with total declared financial needs of USD 43 billion, and only 9.2% covered (DREAM, 2025).⁴ The actual scale of already reconstructed damages remains difficult to assess due to the lack of public information. In the beginning of 2024, it was assessed that only USD 7 billion (or 4.5% of total damages) were spent on reconstruction of damaged infrastructure (Nivievskyi et al, 2024). Since then, the situation has somewhat improved. Figure 5 demonstrates that the shares of restored infrastructural objects are more than 20%, with some good variation across different categories. However, this diagram lacks housing—the largest damaged category. The World Bank (2025) reports about 2.5 million affected households, while the government reports only about 100,000 families have received compensation for housing reconstruction or purchase, namely, only 4%. So, given the scale of housing damages, we estimate that the scale of reconstruction remains at 4–4.5%.

On top of this, the private sector also invests in reconstruction. There are reports that some companies that suffered damages have restored their activities. This includes even facilities that were severely impacted (such as the Retroville mall in Kyiv which was hit by a ballistic missile at the very beginning of the invasion; NYT, 2022). However, given security and other concerns, this data on this are not available (Figure 5 on p. 7).

Balancing Current Needs and a More Sustainable Future

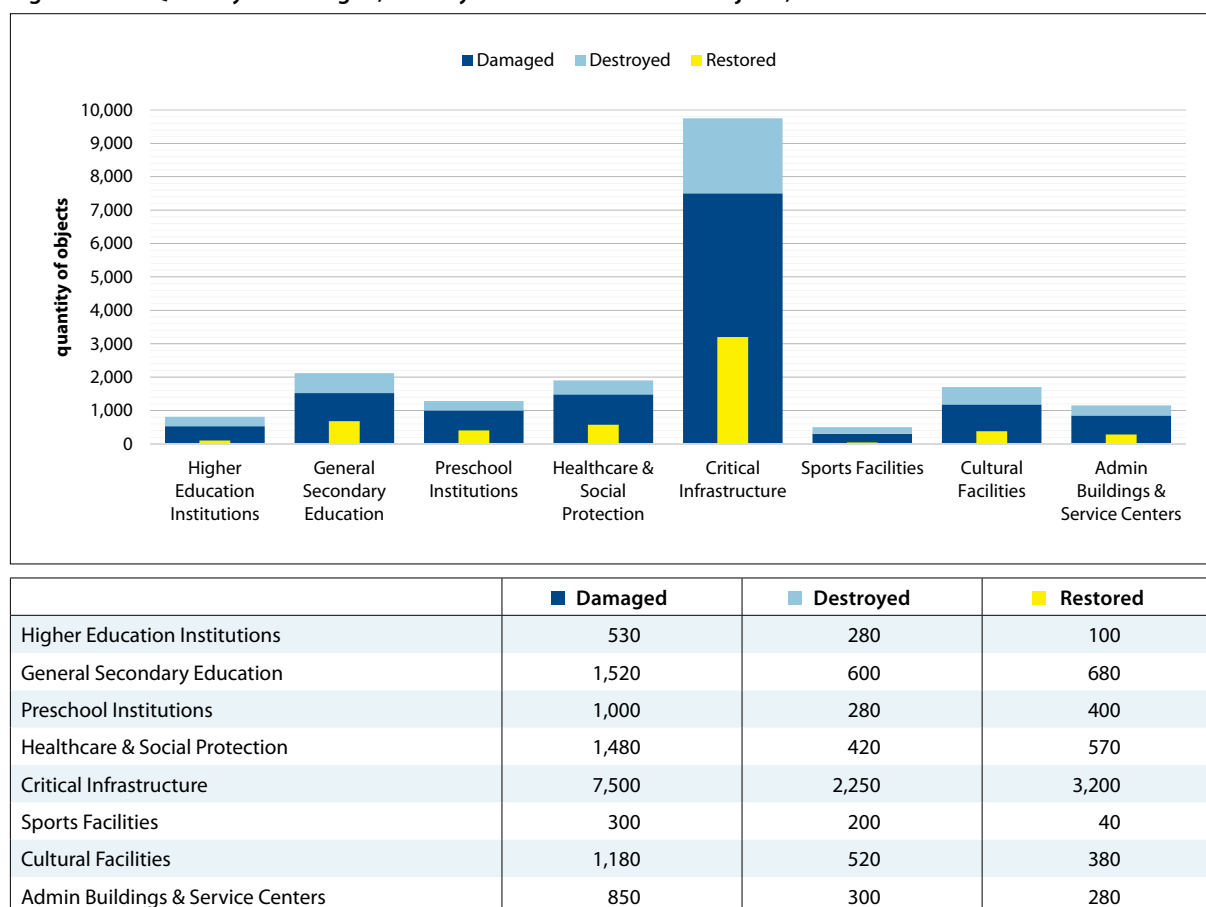
Despite the war, Ukraine continues to advance its European ambitions. Ukraine diligently fulfilled several conditions, and, eventually, the European Council decided to begin accession negotiations in December 2023. These were formally opened in June 2024 (European Council, 2025). This means that the process of post war reconstruction and recovery will need to be closely aligned with the EU accession process requirements and the EU *acquis*. However, this process is not new to Ukraine. It began earlier and gained momentum especially after the Revolution of Dignity in 2014 which erupted because of the abrupt unwillingness of Ukraine's leadership to sign an Association Agreement with the EU, marking its turn towards Russia instead. Formally, the key milestones on Ukraine's path to the EU began with the introduction of the visa-free regime and the entry into force of the Association Agreement, including the Deep and Comprehensive Free Trade Area (DCFTA), in 2017 (EC, 2024).

In recovery, Ukraine will have to strike a balance between its urgent needs and a more sustainable development path (Bjerde, 2023). On the one hand, Ukraine's accession process to the EU implies enormous challenges in terms of improving its institutional governance to align with the EU *acquis*, integrating climate smart/mitigation or "green" modalities in recovery, and reconstruction efforts to strike carbon neutral development objectives (Bjerde, 2023). This will come at an early cost but will pave the way for further sustainable development. Moreover, the EU, among other entities, have already given and pledged further support. In particular, under the proposed Multi-annual Financial Framework the European Commission proposed to mobilize EUR 100 billion for Ukraine in 2028–2034, and this comes on top of the military support from the European Peace Facility (EC, 2025). Moreover, as need continues to grow, other donors will contribute and coordinate their assistance with the EU (von Cramon-Taubadel and Nivievskyi, 2023). We can, thus, expect a magnification of focus on *sustainability* in reconstruction and recovery efforts. On the other hand, Ukraine's urgent efforts for reconstruction might not necessarily be compatible with these forward-looking sustainability goals. This should not be critical when the survival of the country is at stake and all available resources must be invested to stop today's existential threat. The focus on sustainability should take over as the existential threat subsides.

Conclusion

Russia's full-scale invasion has inflicted unprecedented destruction on Ukraine, with estimated total damages

⁴ As of July 10, 2025.

Figure 5: Quantity of Damaged, Destroyed and Reconstructed Objects, as of June 2025

Source: Ministry of Reconstruction of Ukraine, reconstructed from <https://ces.org.ua/recovery-spending-watchdog-june-2025/>

currently surpassing USD 176 billion, particularly to housing, infrastructure, and productive capacity. Total reconstruction and recovery needs are estimated at USD 524 billion which is more than 2.5 times greater than Ukraine's 2024 GDP. Reconstruction efforts are underway but remain uneven and limited, with only around 4–4.5% of damaged assets restored or under repair as of mid-2025. While critical transport links and energy systems have seen targeted reconstruction, they are often supported by donors, while progress in housing, healthcare, and local economic revitalization lags significantly behind.

The reconstruction effort is first of all constrained by the ongoing war. Continued damages and a massive, at least USD 40 billion annual, wartime financing gap

is simply unaffordable. To date, these needs have only been partially covered and certainly require further joint efforts and coordination from Ukraine and its partners and donors. Some progress has been seen here, especially from the EU and its member states.

Furthermore, Ukraine's accession process to the EU implies enormous challenges in terms of improving its institutional governance to align with the EU acquis. Despite the challenges, Ukraine appears to take this as an opportunity to embark on a secured and long-term sustainable development and is very much determined to go through the EU accession process as quickly as possible. The EU also signals its willingness to accept Ukraine as soon as possible and supports this with real steps and commitments.

About the Authors

Prof. Dr. *Oleg Nivievskyi* is a Professor at Kyiv School of Economics and a Siemens Foundation Research Fellow at the Institute for East-European Studies at Free University Berlin. He has more than 20 years of international experience in applied research of agri-food products, factor markets and value chains, and rural development and transportation economics. Oleh's research focuses on agri-food products and factor markets and value chains analysis, as well as in agri-food and regulatory policy impact. Oleh is also interested in a political economy and performance of local

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Dmytro Goriunov is a co-head of the "Russia will pay" project at the KSE Institute at the Kyiv School of Economics. Dmytro is an expert in calculation of damages, losses, and needs resulting from catastrophic events. His early research focused on the calculation of Ukraine's losses because of Russia's annexation of Crimea. Now he is the part of the team that calculates damages, losses and needs because of the ongoing, full-scale invasion. The team makes calculations on a regular basis and issues its own updates. It participates in international efforts by the World Bank, IFC, UNDP and UNIDO.

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References

- Ashapova, V. 2023. Ukrainian metallurgy after February 24: who will give the Atlas a shoulder to lean on? Vox Ukraine. <https://voxukraine.org/en/ukrainian-metallurgy-after-february-24-who-will-give-the-atlas-a-shoulder-to-lean-on>. Accessed on September 16, 2025.
- Atlantic Council. 2025. Putin begins 2025 confident of victory as war of attrition takes toll on Ukraine. <https://www.atlanticcouncil.org/blogs/ukrainealert/putin-begins-2025-confident-of-victory-as-war-of-attrition-takes-toll-on-ukraine/>. Accessed on September 16, 2025.
- Babel. 2025. В Україні 23% території потенційно заміновані. Babel. 2025. <https://babel.ua/news/116149-v-ukrajini-12-teritoriy-potenciyno-zaminovani>. Accessed on September 16, 2025.
- Bjerde A. 2023. Laying Foundations for Building Back Better in Ukraine" – Policy Actions and Principles for a Strong Transition and Recovery Process. *EconPol Forum* 24(2): 5–9.
- Conner, A. and Wessel, D. 2025. What is the status of Russia's frozen sovereign assets? The Brookings Institution. Commentary. <https://www.brookings.edu/articles/what-is-the-status-of-russias-frozen-sovereign-assets/>. Accessed on September 16, 2025.
- CSIS. 2025. Russia's Battlefield Woes in Ukraine. CSIS Brief. <https://www.csis.org/analysis/russias-battlefield-woes-ukraine>. Accessed on September 16, 2025.
- DREAM. 2025. Dream Analytics. <https://bi.dream.gov.ua/#/>. Accessed on September 16, 2025.
- Euronews. 2025. Russia's casualties in its war against Ukraine near 1 million troops, Kyiv says. <https://www.euronews.com/my-europe/2025/05/26/russias-casualties-in-its-war-against-ukraine-near-1-million-troops-kyiv-says>. Accessed on September 16, 2025.
- European Commission (EC). 2024. EU-Ukraine Relations. https://enlargement.ec.europa.eu/european-neighbourhood-policy/countries-region/ukraine_en#ukraines-eu-path. Accessed on September 16, 2025.
- European Commission (EC). 2025. The 2028–2034 EU budget for a stronger Europe. https://commission.europa.eu/strategy-and-policy/eu-budget/long-term-eu-budget/eu-budget-2028-2034_en. Accessed on September 16, 2025.
- European Commission. 2025a. EU announces new €2.3 billion agreements package at the Ukraine Recovery Conference 2025. https://ec.europa.eu/commission/presscorner/detail/es/ip_25_1786. Accessed on September 16, 2025.
- European Commission. 2025b. The Ukraine Facility: Supporting Ukraine's recovery, reconstruction, and path towards EU accession. https://commission.europa.eu/topics/eu-solidarity-ukraine/eu-assistance-ukraine/ukraine-facility_en. Accessed on September 16, 2025.
- European Council. 2025. Ukraine. <https://www.consilium.europa.eu/en/policies/ukraine/>. Accessed on September 16, 2025.
- Interfax. 2025. Shmyhal: Ukraine's needs for external financing in 2026 to remain at over \$40 bln. <https://interfax.com.ua/news/general/1086288-amp.html>. Accessed on September 16, 2025.
- Ministry of Defense of Ukraine. 2025. Загальні бойові втрати росіян за добу: 910 окупантів, 323 БПЛА та 35 артсистем. <https://mod.gov.ua/news/zagalni-bojovi-vtrati-rosiyan-za-dobu-910-okupantiv-323-bpla-ta-35-artsistem>. Accessed on September 16, 2025.
- Nivievskiy, O., Goriunov, D., and Nagurney, A. 2024. Schäden und Wiederaufbau der ukrainischen Infrastruktur. *Ukraine-Analysen*. Ausgabe 296. DOI: 10.31205/UA.296.03. <https://laender-analysen.de/ukraine-analysen/296/ukrainekrieg-schaeden-infrastruktur-wiederaufbau/>.

- NYT. 2022. Russians Pound Ukrainian Cities, as Biden Rallies Anti-Kremlin Alliance. <https://www.nytimes.com/2022/03/21/world/europe/kyiv-mariupol-bombed.html>. Accessed September 16, 2025.
- NYT. 2025. Russia Intensifies Attacks on Ukraine as U.S. Steps Back. <https://www.nytimes.com/2025/05/26/world/europe/russia-ukraine-war-new-phase.html>. Accessed on September 16, 2025.
- Taran, S. and Paul, A. 2025. Ukraine's road to the EU: Getting fit to open negotiating clusters. EPC Policy Paper. <https://www.epc.eu/publication/Ukraines-road-to-the-EU-Getting-fit-to-open-negotiating-clusters-626b50/>. Accessed on September 16, 2025.
- The Economist. 2023. Ukraine's commander-in-chief on the breakthrough he needs to beat Russia. <https://www.economist.com/europe/2023/11/01/ukraines-commander-in-chief-on-the-breakthrough-he-needs-to-beat-russia>. Accessed on September 16, 2025.
- Tony Blair Institute. 2024. From Economic Recovery to Global Food Security: The Urgent Need to Demine Ukraine. Report. <https://institute.global/insights/geopolitics-and-security/the-urgent-need-to-demine-ukraine>. Accessed on September 16, 2025.
- UN. 2025. Civilian Harm and Human Rights Abuses Persist in Ukraine as War Enters Fourth Year. Press Release. <https://ukraine.un.org/en/289667-civilian-harm-and-human-rights-abuses-persist-ukraine-war-enters-fourth-year>. Accessed on September 16, 2025.
- UNHCR. 2025. Ukraine Refugee Situation. <https://data.unhcr.org/en/situations/ukraine>. Accessed on September 16, 2025.
- von Cramon-Taubadel S, Nivievskyi O. 2023. Rebuilding Ukraine—the agricultural perspective. EconPol Forum 24(2):36–40 <https://www.ifo.de/en/econpol/publications/2023/article-journal/rebuilding-ukraine-agricultural-perspective>.
- Wessel, D. and Asdourian, E. What lessons do past international efforts at rebuilding war-torn countries hold for organizing the reconstruction of Ukraine? The Brookings Institution. Commentary. <https://www.brookings.edu/articles/what-lessons-do-past-international-efforts-at-rebuilding-war-torn-countries-hold-for-organizing-the-reconstruction-of-ukraine/>. Accessed on September 16, 2025.
- World Bank, Government of Ukraine, European Union, UN. 2025. Ukraine - Fourth Rapid Damage and Needs Assessment (RDNA4) : February 2022 - December 2024 (English). Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/099022025114040022>.