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THE ROLE OF PUBLIC FINANCE IN UKRAINE'S RECOVERY AND RECONSTRUCTION

Abstract

To fight the aggressor and strengthen Ukraine's economy, the government must play a crucial role in mobilizing domestic and foreign resources, allocating them toward set goals through public expenditure. This paper identifies priority areas for government action in Ukraine's economic recovery, reconstruction, and EU accession, and proposes various instruments of public finance that should be employed by the national government and international partners during reconstruction. I develop a methodology to assess the consolidated budget expenditure required to cover Ukraine's recovery and reconstruction needs (RRNs) over the period from 2025 to 2028. My findings reveal that budget expenditures to meet Ukraine's RRNs will amount to 12.3% of GDP in 2025, 15.5% in 2026, 13.8% in 2027, and 12.7% of GDP in 2028. These results suggest that total budget expenditure (including ordinary government functions) will reach 68% of GDP in 2025, gradually declining to 51.4% of GDP in 2028. I demonstrate the need for additional financial assurances from the EU, the United States, international financial institutions, and bilateral donors to support Ukraine's recovery and reconstruction program.

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Problem Statement

Russia's military aggression against Ukraine has resulted in numerous human casualties and social losses, and large-scale destruction of production capital and infrastructure. The war has led to job and income losses, reduced purchasing power, and eroded national wealth. In 2022, the national economy contracted by 28.8% in real GDP, with over 7 million people falling below the poverty line and 13.5 million forced to leave their homes.

To fight against the aggressor and strengthen the country's economic viability, the national government must play a crucial role in mobilizing adequate domestic and foreign resources and allocating them via public expenditure towards established priorities.

International experience highlights the significance of public finance in restoring the public sector and recovering damaged private assets in war-torn countries. Approximately 80% of short-term economic and humanitarian needs are covered through public financing, both domestic and foreign (World Bank, 2022).

This article provides insights into the issues of rebuilding infrastructure, housing, energy, and health care sectors, modernizing state institutions, and promoting sustainable development and competitiveness. It elaborates on various instruments of public finance, which could be employed by the Ukrainian government, foreign governments, and international institutions to support Ukraine's recovery, reconstruction, and integration into the EU. Western support for Ukraine is seen as essential for strengthening Ukraine's economy and sustaining its defense efforts.

Literature Review

In historical context, Gligorov et al. (1999) demonstrated that the priorities for Balkan reconstruction in the second half of the 1990s included public infrastructure, financial restructuring, employment-generating projects and local development, and institution building. However, injections of foreign funds were insufficient to develop the private productive sector, restructure existing public enterprises, or reform corporate governance.

In my previous study (Bogdan, 2022), I argued that the key goals of Ukraine's post-war reconstruction should include: the reconstruction of damaged production assets and infrastructure; the swift recovery of economic activity; the return of refugees to Ukraine and their inclusion into the economy; and the establishment of pillars for sustainable growth. At the final stage of reconstruction, the focus should shift from rescue measures in the social sector and critical infrastructure towards establishing long-term foundations for economic growth–such as a favorable business climate and the creation of jobs and permanent sources of income.

In 1997, the World Bank Group developed the Post-Conflict Reconstruction Program of Bosnia and Herzegovina (BiH), with priority areas that included: the emergency recovery of critical infrastructure and heavily damaged production facilities; the restoration of the state's institutional capabilities; the emergency restoration of farms and agricultural lands; the reconstruction of transport routes; the rehabilitation of war victims (providing medical and social rehabilitation assistance to people with disabilities); and the emergency repair and reconstruction of the housing stock (World Bank & the EBRD, 1997).

When analyzing BiH's reconstruction, Nedic (2006) suggested that key structural reforms were delayed due to a lack of strategic vision and ineffective aid management. From 1996 to 1999, donors committed less than 3% of their development assistance to the production sector in BiH, unlike the Marshall Plan, in which resources were allocated to restarting production in each country. Additionally, the institutional framework for enterprise development and SME support in BiH remained weak.

Savage (2013) argued that, during reconstruction, external donors should work through national institutions to the extent possible and avoid trying to replace existing administrative capacities. Cultivating national ownership by foreign donors would ensure the best outcomes and sustainability of the reconstruction effort. Contrary to this principle, in Iraq, the United States–led occupation authority attempted to establish a parallel system for reconstruction by using its own staff, which ultimately undermined the country's existing institutions. In the same vein, as the World Bank experts put it, «The impact of reconstruction of Iraq remains disappointingly inconspicuous considering the amount of money spent. … One of the reasons was a lack of engagement with, and from, Iraqi institutions and insufficient or ineffective efforts to build institutional capacity» (Matsunaga, 2019).

Becker et al. (2022) emphasized that reconstruction offers a unique opportunity to radically upgrade Ukraine's productive capacity, bringing it closer to the technological frontier, laying the foundations for long-term growth, and integrating it more tightly into the global economy. Therefore, foreign official and private aid to Ukraine should focus on increasing productive capacity and fostering a high investment rate (e.g. in new machinery/equipment, infrastructure, training/human capital, etc.).

Kotios (2001) emphasized that the assistance allocated to the Balkan countries in the 1990s was rather limited and focused more on easing the consequences of the Kosovo crisis than on supporting a strategic plan for reconstruction and development. As with the American Marshall Plan, substantial assistance within a relatively short period of time would have been preferable to provide a positive shock to the economy and quickly create proper conditions for development. However, financial assistance was instead granted in small amounts over a prolonged period, acting more as a pain reliever.

Ash and Bond (2023) argued that enabling Ukraine to win the war and achieving peace are strategic priorities and public goods for the West. On the contrary, failing to fund Ukraine's reconstruction would mean economic, social and political instability in a country with Europe's largest army; the prospect of millions more Ukrainian migrants in Europe; and the need for Western governments to increase defense spending massively in the face of a more aggressive russia.

Similarly, in considering reconstruction and development in Southeast Europe, Dobrinsky (2000) emphasized that foreign assistance is a kind of investment in the future economic and political security of the entire continent. This is because maintaining an impoverished, potentially explosive region at the continent's outskirts would not only be a source of political instability but also impose huge direct and indirect costs on the EU.

Carletti et al. (2024) suggested that Ukraine's reconstruction requires a financial architecture centered on durable, properly funded, and well-run institutions with clear missions. Domestic financial system must be capable of mobilizing and allocating large amounts of capital. They found that the existing financing framework for Ukraine is not well-suited for reconstruction: the amount of funding is insufficient; coordination across sources is poor; long-term commitments and budgeting are lacking; and the structure of funds is tilted towards loans rather than grants.

In general, the available literature does not consider in detail Ukraine's priorities for recovery and reconstruction in the key sectors affected by the war, nor the budgetary financing requirements for rebuilding and modernizing Ukraine.

The purpose of this article is to identify the priority areas for government action for the successful economic recovery and reconstruction of Ukraine, its integration into the EU, and to assess Ukraine's need for public funds (including international aid) to ensure their appropriate provision.

Methodology

This article offers a methodology for assessing the consolidated budget expenditure required to meet Ukraine's recovery and reconstruction needs for the period 2025-2028.

The recovery and reconstruction needs (RRNs) across sectors as of the end of 2023 were outlined in the Rapid Damage and Needs Assessments Report (hereinafter referred to as RDNA-3), jointly prepared by the World Bank, the European Commission, and the Government of Ukraine (World Bank, 2024). According to RDNA-3, these needs are defined as the value associated with the resumption of prewar normality via activities such as repair and restoration, including a premium linked to building back better principles – improved energy efficiency, modernization efforts, and sustainability standards–as well as factors like global inflation, surge pricing due to volume, and other considerations.

The damages and needs for 2024 are not covered by RDNA-3, even though russian attacks continue to impact the Ukrainian economy and human lives. To address this gap, I multiplied the RRNs as of the end of 2023 by a factor of 1.25, arriving at a rough estimate of the total RRNs at the end of 2024, amounting to $607.9 billion.

Next, the expected expenses for recovery in 2024 were deducted from the $607.9 billion estimate, resulting in net RRNs of $592.6 billion for the period 2025-2034.

I estimated the shares of Ukraine's consolidated budget in financing RRNs across functions of government; these shares include foreign donor financing disbursed through the Ukrainian budget. The potential level of private sector contributions to financing the recovery in industry, agriculture, housing, and other sectors was considered using estimates from the International Finance Corporation (World Bank, 2024, p.19).

In addition, I considered the involvement of international humanitarian organizations in meeting the RRNs, which reduces the share of Ukraine's consolidated budget in recovery financing. The estimates (see Table 1) indicate that the share of Ukraine's budget expenditures in meeting RRNs ranges from 35% in agriculture to 90% in education.

Average annual needs by sector were calculated as 1/10 of the total amount. However, a special algorithm was applied for 2025, based on the assumption that the war would continue until March-April 2025. Since armed hostilities hamper the reconstruction process, the average annual needs in public expenditure were multiplied by a factor of 0.7 to derive the indicators for 2025.

Given the annual RRNs for Ukraine's budget in terms of US dollars, I recalculated them into GDP ratios. GDP projections are available in the Budget Declaration of the Ukrainian Government (Cabinet of Ministers of Ukraine, 2024), while exchange rate forecasts were obtained from the IMF (2024). The resulting estimates of budgetary financing needs range from 12.3% of GDP in 2025 to 15.5% of GDP in 2026. All annual figures, distributed across economic sectors, are presented in Table 1.

The estimates for RRNs relative to GDP were then combined with the conventional expenditures of the consolidated budget, finalizing the projections for total budget expenditures.

The formula for calculating the annual budget expenditure on RRN for the i^{th} function is as follows:

$$Exp\_pr_i^{rat} = (RRN_i^{usd} \times 1.25 - Prior_i^{2024}) \times \frac{Share_i}{100} \times 0.1 \times \frac{ER_{UAH/USD}}{GDP}. \quad (1)$$

Where:

$Exp\_pr_i^{rat}$ – Projected budget expenditure for meeting RRNs by the i^{th} function as a ratio to GDP;

RRN_i^{usd} – RRNs for the i^{th} function, as estimated in RDNA-3 as of 31.12.2023, in US dollars;

$Prior_i^{2024}$ – Recovery and reconstruction priorities for the i^{th} function in 2024, in US dollars;

$Share_i$ – Estimated shares of Ukraine's consolidated budget in the financing of RRNs for the i^{th} function of government expenditure;

$ER_{UAH/USD}$ – Average annual nominal exchange rate of the hryvnia to the US dollar, as forecasted by the IMF for the respective year;

GDR – Ukraine's nominal GDP in hryvnias, as projected by the Government of Ukraine.

Research Results

Addressing the significant financing needs in the housing, transport, industry, energy, social protection, and other sectors will be pivotal to restoring the Ukrainian economy's productive capacity, boosting employment, and delivering public services.

According to experts from the World Bank, European Commission, and Ukrainian government, RRNs were estimated at $486.3 billion as of December 2023 over a 10-year period. Direct damages were estimated at $152 billion (World Bank, 2024).

Across sectors, the highest estimated needs were in housing (over $80 billion, or 17% of the total), followed by transport (almost $74 billion, or 15%), commerce and industry ($67.5 billion, or 14%), agriculture ($56 billion, or 12%), energy ($47 billion, or 10%), and social protection and livelihoods ($44 billion, or 9%). The sectoral distribution of the RRNs is shown in Figure 1.

The Government of Ukraine has approved the **Ukraine Plan,** a set of measures for the period 2024-2027. This plan outlines key sectoral reforms, incorporating priority areas and cross-cutting issues such as European integration, the green transition, and human capital. The program is supported by the Ukraine Facility of the EU (Ukraine Facility, n. d.).

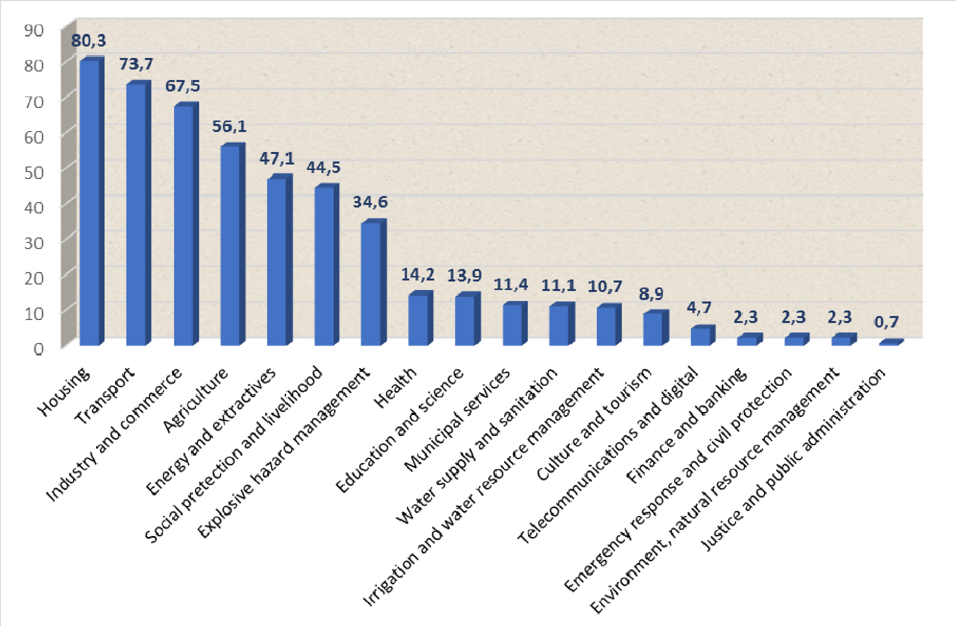
Under the Extended Fund Facility (EFF) program, the Ukrainian government committed to involving **foreign donors** in the budgetary financing of Ukraine's reconstruction, to the extent possible. In particular, the government announced that the mechanisms used for reconstruction financing would align with the principles of integrated public investment management and that critical projects would be incorporated into the medium-term budget framework (IMF, 2024).

Starting in 2024, the Cabinet of Ministers of Ukraine began identifying recovery priorities on an annual basis and raising appropriate financial resources. The government favors a sector-level approach to recovery and reconstruction planning, with activities of line ministries coordinated through the Ministry for Infrastructure Development and the Ministry of Economy.

In what follows I will consider the requirements and priorities of the main sectors essential for the efficient fulfillment of state functions and meeting RRNs, as well as present estimates of budgetary financing requirements.

Figure 1

RDNA-3 estimates of recovery and reconstruction needs (RRNs) by sector as of December 31, 2023 ($ billions)



Source: World Bank (2024), author's presentation.

Social protection and employment promotion

The social protection system in Ukraine is under considerable and growing pressure due to an increasing number of vulnerable groups and limited fiscal resources. Government efforts should be focused on the rehabilitation of war-affected groups, including internally displaced persons (IDPs), children (displaced children, orphans), persons with disabilities, and war veterans.

The estimated RRNs in the social protection system amount to $44.5 billion over 10 years. These needs include service delivery restoration – $21.4 billion; employment-related measures – $14.7 billion; military pensions and other war-related benefits – $4.2 billion; social benefits to IDPs – $2.8 billion (World Bank, 2024, p. 98).

The government's Budget Declaration identifies the following tasks for 2025-2027: (i) ensuring maximum targeting and proximity of social support for those in need; (ii) transforming various social assistance programs into a unified package based on individual needs; (iii) ensuring transparency and maximum objectivity in the criteria for receiving support; (iv) ensuring protection of children's rights; (v) providing accompaniment for persons with disabilities, along with auxiliary rehabilitation means and prosthetic and orthopedic tools of advanced functionality.

The Ukraine Plan identifies the following priorities for social support of **war veterans**: providing quality rehabilitation and medical assistance, including psychological support; introducing skilling, reskilling, and upskilling programs; creating necessary conditions for their employment; and implementing support measures for veteran-owned businesses.

Considering the needs of **persons with disabilities** requires placing their socialization and adaptation at the core of government policy. The primary focus should be on facilitating their return to active socioeconomic activities within their communities. This necessitates transitioning from the medical model of disability to the biopsychosocial model. Local governments must prioritize creating an accessible and barrier-free environment for individuals with various impairments.

During and after the war, both central government and local communities must invest in housing, basic services, social protection, and livelihoods for **IDPs and vulnerable returnees**. Partnerships between central and local authorities, civil society, and the private sector are crucial for the effective design and implementation of support programs. Support packages could assist with livelihoods and business financing, psychosocial support, and integration of returnees.

A wide range of social programs should include incentives to encourage returns to the labor market. A new design of social assistance programs could contribute to the restoration of jobs. However, the **employment promotion** policy would entail additional costs, such as mobility grants, settling-in grants, skilling programs, and return migration and immigration schemes.

Based on the described methodology, my estimates of RRNs in the social protection system that must be covered by the budget range from 1.8% to 2.3% of GDP annually through 2028 (see Table 1). This suggests that achieving the goals of reconstruction will require augmenting consolidated budget expenditures for social protection by corresponding amounts.

Housing

According to RDNA-3, 10% of Ukraine's total housing stock has been damaged or destroyed, affecting more than 2 million housing units across the country. As a result, millions of people have lost their homes. By the end of 2023, the total damage to the housing sector was estimated at $55.9 billion, while the needs were estimated at $80.3 billion.

The Government of Ukraine has initiated a number of programs for affected homeowners. Among them is «eVidnovlennia» («eRecovery»), which focuses on providing compensation for the restoration of damaged housing and for destroyed housing. In addition, the affordable mortgage loan program «eOselya» was expanded to issue loans at a 7% interest rate to IDPs, war veterans and their family members, and other citizens without their own housing.

Currently, a governmental action plan is urgently required to relocate vulnerable individuals to **affordable and accessible housing** and/or convert collective site buildings into appropriate long-term housing. To facilitate recovery in the housing sector while simultaneously securing social justice the government has to:

- Increase the availability of housing for IDPs, people with disabilities, returning refugees, and others who cannot currently rent or purchase housing.
- Develop a mechanism to offset the costs associated with renting accommodation by vulnerable IDPs.
- Extend the scope of «eOselya» program to include returning migrants, IDPs, and others who may receive preferential mortgage loans.

The substantial RRNs in the housing sector, coupled with limited public resources, underscore the need for comprehensive sector reform. Such reform requires the ***development of a housing strategy and corresponding action plans***. The strategy should be based on a shared vision for housing recovery and criteria for prioritizing support recipients.

The methodology used in this study enables the estimation of RRNs in the housing sector that must be financed by the Ukrainian budget. The results indicate that the associated public expenditures will be in the range of 2.4% to 3% of GDP annually over the period 2025-2028.

Transport infrastructure

The World Bank (2024) estimates the total cost of damage to the transport sector at $33.6 billion. Total RRNs in the sector are assessed at $73.7 billion, comprising (i) motorways, highways, and other national roads ($21.5 billion); (ii) railway infrastructure, rolling stock, equipment, and other assets ($17.6 billion); and (iii) local oblast, village, and communal roads ($13.0 billion).

Since the early stages of reconstruction, the government and foreign donors have adhered to the principle that most investment in transport infrastructure should be focused on core networks.

The EU-supported **Ukraine Plan** outlines the following measures:

- Restoring essential connectivity and logistics, reinstating lifeline transport services, urban public transport, and regional passenger and supply connectivity.
- Reconstructing and upgrading key bridges to align with TEN-T standards.
- Reconstructing and upgrading capacities in certain seaports and inland ports, including the development of a multimodal container transportation system.
- Enhancing the efficiency of border infrastructure through improved access routes and digitization of border crossing points (BCPs) with the EU and Moldova.

The upgrade of TEN-T networks across transport modes is considered critical, as these networks will form the backbone of the transportation system, connecting big cities, border crossing points with the EU and Moldova, and major ports and airports.

The modernization of **railway transport** entails the following strategic priorities: (i) developing 1435 mm gauge lines in western Ukraine to integrate the national rail system with the EU; (ii) acquiring new rolling stock, including zero-emission models, to replace the aging fleet; and (iii) upgrading certain rail corridors to meet TEN-T standards. Additional tasks include the electrification of railway tracks; modernizing twelve existing EU border points and constructing three new ones; and building the Kyiv-Warsaw high-speed railway.

The strategic direction of **road infrastructure** development includes the repair and construction of new automobile roads, including modern autobahns integrated into the Trans-European Network. In the short term, the modernization of border crossing point infrastructure with neighboring EU member states is of critical importance.

The restoration of full access to **Black Sea ports** and the safe transportation of goods through the Black Sea Corridor remain crucial to Ukraine's economic success. Future efforts should focus on supporting existing transport routes and creating new ones across the Black Sea.

Rebuilding Ukraine's transport infrastructure and accelerating its logistics potential will require budgetary funds, private investment, and donor funds. To attract private investment, establishing legal mechanisms for the construction of concession roads and the operation of a toll collection system is essential.

My estimates indicate that the budget expenditure for financing Ukraine's RRNs in the transport sector will range from 2.1% to 2.6% of GDP annually over the period 2025-2028.

Energy sector

More than 50% of the total power generation capacity was damaged or destroyed due to the war. At the end of 2023, the damage was estimated at $10.6 billion, while the RRNs were assessed at $47.1 billion. Of this, $40.4 billion is needed for the reconstruction of the power sector, including transmission system operators (TSOs) and distribution system operators (DSOs); $3.4 billion for the reconstruction of the fuel oil sector; and $3 billion for the reconstruction of the gas transportation system.

In the short term, the Government of Ukraine has announced several priorities for the sector:

- Repairing damage to the power grid, power generation facilities, and other energy infrastructure to ensure access to energy for citizens and enable recovery efforts, including emergency repairs to power plants.
- Restoring and reconstructing damaged thermal generation facilities and hydropower plants in 5 key economic regions.
- Launching the construction of two units and preparing for the construction of two additional units at the Khmelnytskyi nuclear power plant.
- Strengthening distributed local generation by installing gas turbine and gas engine generators and implementing modern modular gas turbine projects.

In the medium to long term, the government plans to rely on actions that align Ukraine's energy model with EU energy policy, advancing the country toward a decarbonized economy. The Ukraine Plan outlines the following strategic goals for the energy sector:

- Supporting the green transition and increasing the share of renewable energy while enhancing the decentralization of the energy system.
- Developing interconnections between Ukraine's integrated energy system and the EU within the Continental Europe Synchronous Network.
- Establishing legal, organizational, and technical conditions for the sustainable development of renewable energy, grounded in competitive market principles.
- Modernizing heat-generating enterprises and improving the resilience, quality, and availability of heat supply services.

The Ukrainian government is already experiencing difficulties attracting funding from both public and private sources to fulfill these tasks. According to the methodology used in this study, the share of Ukraine's consolidated budget in financing total needs in the energy sector is assumed to be as high as 40%. My estimations show that the RRNs in the energy sector, which must be covered by Ukraine's budget and donor funds (committed to budget), will range from 0.85% to 1.1% of GDP annually through 2025-2028.

Health care

The war has inflicted around $1.4 billion in damage to the health sector, with 1,242 public facilities (12.5% of the total) damaged across Ukraine. The total RRNs for this sector are estimated at $14.2 billion over a 10-year period.

The important tasks for the recovery of the health care sector include the renovation of damaged facilities, the reconstruction of outdated facilities to better support rehabilitation, and the upgrading of critical infrastructure for the overall health care system.

The **Ukraine Facility Plan** envisages the following priority measures in the health care sector:

- Investing in the restoration and modernization of state and municipal healthcare facilities damaged by the hostilities.
- Ensuring access to medical services for civilians and the military, developing services to meet the growing need for physical and psychological rehabilitation, prosthetics, and facilitating the transition of military personnel to civilian life.
- Developing IT infrastructure and digital information management systems, such as digital patient registers and records.

Apart from this, the **Medium-Term Budget Declaration** prescribes the following measures:

- Planning the provision of medical services according to the population's needs, considering demographic and migration trends.
- Improving the quality of emergency medical care to reduce premature mortality.
- Strengthening systems for epidemiological surveillance, monitoring biological, chemical, radiation, and nuclear threats, and shaping response to infectious diseases and epidemics.
- Reducing child mortality and expanding early diagnosis services and early intervention technologies.

My analysis indicates that RRNs in the health care sector, to be financed by the Ukrainian budget, will amount to 0.51% to 0.65% of GDP annually from 2025 to 2028.

Industry and commerce

The RNDA-3 report estimated the total damage to commercial and industrial facilities as high as $15.6 billion, while RRNs were projected at $67.5 billion until 2034.

Experts from the World Bank (2024) recommend a set of well-justified measures to support industry and commerce over the *short term*, including:

- Providing ***financial support to firms in the form of loans, grants, and guarantees*** to help viable firms survive, relocate if necessary, and reconstruct and modernize their assets.
- Devising and deploying de-risking instruments and support to improve the ***affordability of interest rates*** across all sectors.
- Boosting ***war-risk insurance*** and expanding risk coverage for new investments.
- Increasing the availability of ***trade finance***, helping firms access new markets with tools to ***meet international standards***, and facilitating international partnerships and learning.
- Supporting the ***retraining and upskilling of labor*** to address skills required by businesses to access new markets.

Apart from these, the Ukraine Plan envisages state support for the introduction of ***industrial parks*** as a tool for attracting investments in the de-occupied areas.

The ongoing support to SMEs, from both domestic and foreign sources, should be extended to a wider range of enterprises and sectors, such as the production of high value-added food products, light industry, oil refining, chemicals, pharmaceuticals, green metallurgy, machinery, furniture, woodworking, education, logistics, and other services.

Large capital-intensive investments in key industries should be encouraged by ***de-risking*** instruments and ***co-financing facilities*** with donors' backing. The design of international financial institutions' (IFIs) programs needs to be modified to ensure coverage of a wider range of companies and projects. These programs should include direct financing for large and medium-sized companies and the extension of IFIs' loans through Ukrainian banks.

In addition, direct ***technical assistance*** from international organizations or foreign governments could help firms enter new markets, move into higher-value-added products, and implement more sustainable practices.

My analysis indicates that the RRNs in the commerce and industry sector, to be financed by the Ukrainian budget, range from 0.9% to 1.2% of GDP annually. Additionally, the RRNs in the agricultural sector, covered by the Ukrainian budget, are projected to range from 1.1% to 1.4% of GDP annually from 2025 to 2028.

The quantitative results of the application of the developed methodology and the resulting estimates of the budget expenditures for covering Ukraine's RRNs are presented in Table 1.

Table 1

Data and estimated budget expenditures for Ukraine's recovery and reconstruction needs (RRNs) in 2025-2028

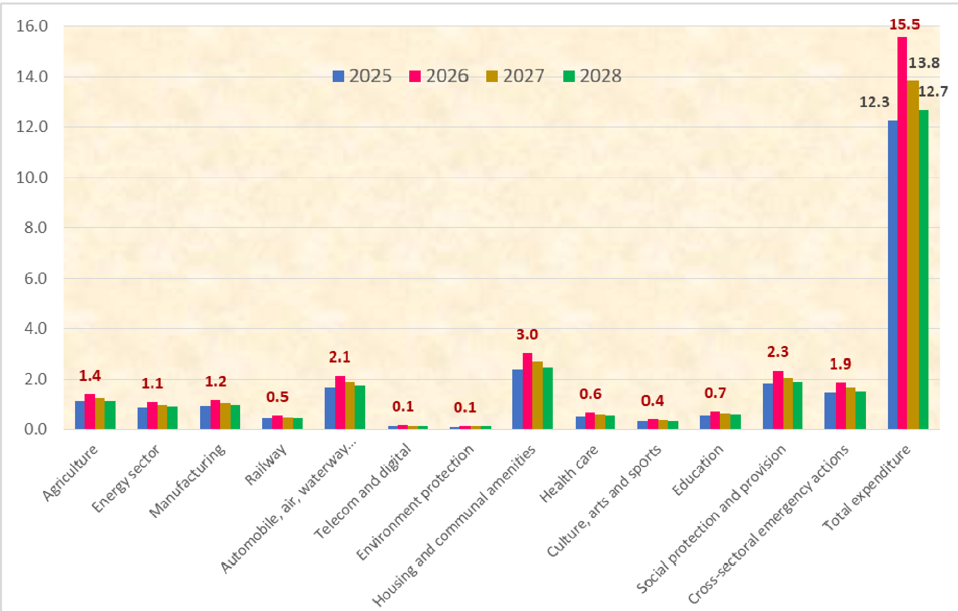
	2024-2033 RRNs (RDNA-3) from all funding sources, USD bn	2025-2034 RRNs plus 2024 damage minus 2024 priorities, USD bn	Share of Ukraine's budget allocated to RRN financing (including donor funds), %	RRNs to be financed by Ukraine's budget for 2025-2034, USD bn	Average annual expenditure from Ukraine's budget for 2025-2034 RRNs, USD bn	Annual estimated expenditure of Ukraine's budget for RRNs in 2025-2028, % of GDP			
						2025	2026	2027	2028
Public order, safety, judiciary	0.7	0.85	100	0.85	0.09	0.03	0.04	0.04	0.03
General state functions	2.3	2.88	20	0.58	0.06	0.02	0.03	0.02	0.02
Economic activity	259.8	316.15	-	-	-	-	-	-	-
Agriculture	66.8	83.02	35	29.06	2.91	1.10	1.40	1.24	1.14
Energy sector	47.1	56.22	40	22.49	2.25	0.85	1.08	0.96	0.88
Manufacturing	67.5	81.26	30	24.38	2.44	0.92	1.17	1.04	0.95
Railway	18.0	22.09	50	11.05	1.10	0.42	0.53	0.47	0.43
Road, air, waterway transport	55.7	67.68	65	43.99	4.40	1.67	2.11	1.88	1.72
Telecom and digital	4.7	5.48	55	3.01	0.30	0.11	0.14	0.13	0.12
Environmental protection	2.3	2.88	90	2.59	0.26	0.10	0.12	0.11	0.10
Housing and communal amenities	102.8	125.42	50	62.71	6.27	2.37	3.01	2.68	2.46
Health care	14.2	16.88	80	13.50	1.35	0.51	0.65	0.58	0.53
Culture, arts and sports	8.9	11.12	75	8.34	0.83	0.32	0.40	0.36	0.33
Education	13.9	16.18	90	14.56	1.46	0.55	0.70	0.62	0.57
Social protection and provision	44.5	55.26	87	48.07	4.81	1.82	2.31	2.06	1.88
Cross-sectoral emergency actions	36.9	45.36	85	38.56	3.86	1.46	1.85	1.65	1.51
Total expenditure	**486.29**	**592.57**	–	**323.74**	**32.37**	***12.3***	***15.5***	***13.8***	***12.7***

Source: estimated and compiled by the author using data from RDNA-3 (World Bank, 2024).

The column «*Annual estimated expenditure of Ukraine's budget for RRNs in 2025-2028, % of GDP*» in Table 1, along with the «*Total expenditure*» columns in Figure 2, show annual recovery and reconstruction funding needs from Ukraine's budget as a percentage of GDP. We can observe that the total budget expenditure required to meet RRNs (except financing conventional government functions) will amount to 12.3% of GDP in 2025, 15.5% in 2026, 13.8% in 2027, and 12.7% of GDP in 2028.

Figure 2

Estimated recovery and reconstruction needs (RRNs) to be imposed on Ukraine's budget in 2025-2028, in % of GDP



Source: author's calculations.

The total consolidated budget expenditure (including regular government functions), which could support the process of Ukraine's reconstruction, is projected at 68% of GDP in 2025, 59.5% in 2026, 54.3% in 2027, and 51.4% in 2028.

Due to a shallow financial market in Ukraine, the role of domestic funding sources in covering RRNs cannot be significant. Since the beginning of the russian invasion, Ukraine has received substantial financial support from foreign donors, which amounted to $31.15 billion in 2022, $42.48 billion in 2023, and is planned to reach $40.91 billion in 2024.

Based on the estimated budgetary financing of RRNs, I calculated the government's gross financing needs from external sources to be 27.5% of GDP in 2025, 23.4% in 2026, 18.3% in 2027, and 16.2% in 2028.

Conclusions

Addressing the war's destructive consequences and laying the groundwork for Ukraine's sustainable development should rely on a well-calibrated fiscal policy and substantial assistance from the EU and other donors. Restoring Ukraine's productive capacity and reversing the war's devastating impact will demand significant public resources.

Recovery and reconstruction needs (RRNs) across sectors are detailed in the latest RDNA-3 report (World Bank, 2024). I estimated the shares of Ukraine's consolidated budget–including foreign donor financing disbursed to the Ukrainian budget–in funding RRNs across government functions. Potential contributions from the private sector to financing various sectors were also considered.

The total amount of net RRNs for 2025-2034, estimated at $592.6 billion, was evenly distributed over 10 years. However, a specific algorithm was applied for 2025, based on the assumption that the war would continue until March-April 2025. Annual figures in U.S. dollars were then recalculated as percentages of GDP for the period 2025-2028.

My findings indicate that the consolidated budget expenditure required to meet Ukraine's RRNs will need to be funded at 12.3% of GDP in 2025, 15.5% in 2026, 13.8% in 2027, and 12.7% in 2028.

Significant RRNs in the **housing sector**, coupled with limited public resources, necessitate the development of a housing strategy and related action plans. Adopting a programmatic approach, grounded in a shared vision for recovery and prioritization criteria, would be appropriate. My analysis indicates that the RRNs in this sector, to be financed by the Ukrainian budget, will range between 2.4% and 3% of GDP over the period 2025-2028.

Rebuilding Ukraine's **road infrastructure** and enhancing its logistics potential will require budgetary funds, private investments, and contributions from foreign donors. My estimates indicate that the RRNs for the transport sector, to be financed from the Ukrainian budget, will range from 2.1% to 2.6% of GDP annually.

My calculations indicate that the RRNs in the **energy sector** will require financing from the Ukrainian budget, ranging between 0.85% and 1.1% of GDP from 2025 to 2028. Additionally, the RRNs in **industry and commerce** are estimated at 0.9% to 1.2% of GDP annually. For the **agricultural sector,** the RRNs to be financed by the Ukrainian budget will range between 1.1% and 1.4% of GDP annually.

The **social protection system** should focus on the rehabilitation of war-affected groups, including children, IDPs, persons with disabilities, and war veterans. Restructuring and modernizing relevant benefits remain key policy objectives. My analysis indicates that the RRNs for this system will range from 1.8% to 2.3% of GDP annually through 2028. Furthermore, the RRNs in the **health care sector**, to be financed by the Ukrainian budget, are estimated to range between 0.51% and 0.65% of GDP over the period 2025-2028.

My findings indicate that additional financial assurances from international partners are essential to securing sufficient resources needed for the implementation of Ukraine's Recovery and Reconstruction program. Potential funding sources to address the consequences of the war may include pledges from the EU, the United States, international financial institutions, Canada, and other donors. Proceeds from immobilized russian assets should also play a role in this effort.

Starting in 2026, additional financial assurances from EU institutions will be required beyond the capacity of the Ukraine Facility. These assurances will become even more important from 2028 onwards, once the Ukraine Facility expires. New EU funds to support Ukraine could be incorporated into the EU's cohesion policy.

In this process, official bilateral and multi-lateral donors should commit to providing exceptional support to Ukraine on highly concessional terms, with a high share of grants. Only a substantial extension of foreign grants and significant foreign debt write-offs will ensure the restoration of Ukraine's public debt sustainability and contribute to Ukraine's future reconstruction as a success story.

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