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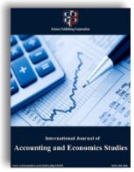

Optimizing Financial Management and Administration in Infrastructure Projects for Economic Recovery

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Abstract

The research aimed to establish an organisational and managerial approach to enhance cooperation between financial management and administration in Ukrainian infrastructure projects. The methodology included the analysis of regional statistical data, the comparison of foreign financial management methods, and the evaluation of financial instruments, including public-private partnerships, government bonds, and advanced project management technology. The critical elements examined were financial instruments vital for Ukraine's economic revitalisation, emphasising the attraction of investment via partnerships, bonds, stocks, and shares. The research further investigated how novel technologies improve project transparency and mitigate financial risks. A comparative review of finance procedures in the EU, the US, and Japan identified optimal strategies applicable to Ukraine. The findings pointed to the need for a comprehensive legislative framework to guarantee stability and accountability while promoting public-private partnerships to alleviate risks and enhance cost efficiency. The research emphasised the need to incorporate socio-economic and environmental considerations into project planning and financing to guarantee sustainability and efficacy. The study recommended enhancements to Ukraine's infrastructure finance and administrative processes based on these observations.

Keywords: *Budgeting Transparency; International Cooperation; Investment Programs; Resource Provision; Strategic Planning; Infrastructure Recovery.*

1. Introduction

Financial management and administration are essential factors in the successful implementation of infrastructure projects that contribute to economic recovery. They play a critical role in stabilising and developing the economy, particularly during post-crisis recovery periods. Financial management entails attracting both public and private investments, as well as securing international financial assistance in the form of grants, loans, or direct investments. A key component is the development of transparent mechanisms for fund allocation, aimed at preventing corruption and the misuse of resources. Moreover, the adoption of modern financial planning and control tools, such as automated management systems (e.g., cloud-based financial monitoring platforms or project management software), enables real-time budget oversight, timely adjustments to financial flows, and adherence to project deadlines and budget constraints (Rivero del Paso et al., 2023). The administration of infrastructure projects involves organisational and management measures that ensure coordination across different levels of governance while engaging all relevant stakeholders, including government agencies, private companies, local communities, and non-governmental organisations. Effective communication among these participants accelerates and improves project implementation, as each stakeholder gains a clear understanding of their roles and responsibilities. Additionally, the integration of modern project management methodologies, such as Agile approaches (e.g., Scrum or Kanban) and Lean methodologies (e.g., Lean Six Sigma or Value Stream Mapping), enhances the flexibility and adaptability of projects to changes in the external environment (Dugbartey & Kehinde, 2025). A significant challenge in the financial management and administration of infrastructure projects for economic recovery lies in the effective allocation of limited resources among multiple project participants. Given the complexity of such projects, it is imperative to adopt comprehensive organisational and management strategies that facilitate effective coordination among all parties involved, ultimately achieving the strategic objectives of economic recovery.

Many contemporary scholars have explored this topic and provided varying perspectives. For instance, Grytsenko et al. (2024) analysed the resilience of Ukraine's economy during the war and the challenges faced in the recovery process. Their study highlighted the importance of adopting innovative approaches to financial management, particularly in financing critical infrastructure projects, and emphasised the role of international assistance in ensuring long-term growth. Developing post-war economic recovery strategies, they argued, requires

integrating international experience and implementing effective financial management mechanisms. Bulyk (2023) investigated key aspects of Ukraine's economic recovery, focusing on the necessity of attracting investment, modernising infrastructure, and creating favourable conditions for business revival. The author stressed the significance of strategic planning and coordination between public and private entities. Transparent financing of recovery projects, Bulyk noted, is a crucial factor in addressing the aftermath of the war.

Alekseyenko et al. (2023) examined the financing of economic recovery within the context of geopolitical confrontation. The authors underscored the principles of transparency and accountability as essential conditions for the effective utilisation of financial resources. They also proposed measures to minimise corruption in financial administration processes. In their research, Danylenko & Venger (2024) explored the state's role in stimulating economic growth post-war. The authors analysed shifts in market conditions and highlighted the critical importance of state support for small and medium-sized enterprises as a cornerstone of post-conflict recovery. Particular attention was given to developing mechanisms that enhance access to credit and contribute to the stabilisation of the financial sector.

The banking system plays a crucial role in ensuring the stable functioning of the economy. Drobiazko et al. (2023) analysed the loan portfolios of Ukrainian banks under martial law. Their study explored the impact of the war on borrowers' solvency, the quality of banks' assets, and the overall financial stability of the banking system. The authors proposed measures to mitigate risks and adapt banking operations to crisis conditions. They also emphasised that international experience could be instrumental in developing effective financial mechanisms for the post-war period. Garafonova et al. (2023) investigated the application of innovative financial strategies in various countries to support business recovery. They highlighted the need to adapt these strategies to Ukraine's unique circumstances, taking into account the specific challenges facing the national economy. In their study, Cheng et al. (2024) examined the impact of digital tax administration on local government debt. The research underscored that the adoption of digital technologies in tax administration could reduce the debt burden and contribute to the stability of public finances during crisis periods. The work of Chugunov et al. (2024) focused on the critical role of financial support in the development of the Ukrainian economy, particularly through the implementation of infrastructure projects. The authors emphasised the importance of establishing effective financing mechanisms to support the country's post-war reconstruction, identifying infrastructure as a central component of the recovery process. The modernisation of the public finance management system is a vital component of economic recovery. Chornovol et al. (2020) examined the current challenges in public finance management and proposed approaches for its transformation. The authors highlighted the importance of adopting e-government technologies to enhance the transparency and efficiency of the system.

This study aimed to identify key aspects of an organisational and managerial strategy that ensures effective coordination between financial management and administration in the implementation of infrastructure projects. The specific objectives were as follows:

1. To assess modern strategies for financial management and administration in the implementation of infrastructure projects, particularly in the context of post-war economic recovery.
2. To identify the main challenges encountered by public and private entities in financing and administering infrastructure projects and to explore potential solutions to overcome these challenges.
3. To develop practical recommendations for the effective financing, management, and control of infrastructure projects, considering international experience and the unique conditions of the Ukrainian economy.

2. Materials and Methods

The study employed several key methods to ensure a comprehensive analysis and objectivity in its findings. The method of international experience analysis was utilised to examine and evaluate approaches to financial management and administrative processes in large infrastructure initiatives. This method enabled the identification of successful practices and mechanisms employed by other countries to finance and implement large-scale infrastructure projects, as well as the avoidance of mistakes by learning from international experience. The collected information facilitated the assessment of the effectiveness of various models used in international practice, allowing for their adaptation to Ukrainian realities. This approach contributed to a deeper understanding of how these strategies can be integrated into Ukraine's existing management system to enhance the financing and administration of infrastructure projects.

The method of comparison and generalisation was employed to identify commonalities and differences in approaches to project implementation across different countries and regions. Through the comparison method, universal factors contributing to project success were identified, providing a foundation for adapting relevant experiences to the Ukrainian context. The generalisation of results helped to develop recommendations for optimal management approaches suited to Ukraine's specific conditions. This method systematised the data and ensured conclusions were drawn from accumulated experience, reducing the risk of subjective interpretation. Statistical analysis enabled the quantitative evaluation of the effectiveness of various financial management and administration models, as well as the identification of factors influencing the success of infrastructure projects. By analysing indicators such as economic efficiency, project timelines, and funding levels, this method provided insights into the rational use of resources.

The study analysed statistical data on Ukraine's regions in the context of financial management, focusing on economic losses and recovery. This included examining the total cost of recovery, gross domestic product (GDP) dynamics before and after the conflict, the budget allocated for recovery efforts, the total amount of investments attracted, the share of international assistance (grants and loans), the role of private capital, and the administration of infrastructure projects. One of the key projects examined was the "Strategic Development of Infrastructure Projects in Ukraine: Drive Ukraine 2030" (2024), alongside the draft recovery plan for Ukraine developed by the "Environmental Safety" working group and the Economic Laboratory for Economic Recovery (KSE Economy Recovery Lab, 2025). These analyses were conducted using specific criteria.

The main criteria used to evaluate regional indicators included the following:

1. Economic activity of the region: This involved assessing the volume of production and the level of investment attractiveness in each region. Particular attention was given to identifying economic centres with the highest levels of consumption and demand for infrastructure services.
2. Infrastructural readiness of the region: This criterion focused on evaluating the condition of infrastructure, including transport networks, energy facilities, water supply, and sewage systems, as well as the region's capacity to integrate new projects into existing structures.
3. Level of public funding and investment: This involved examining the amount of funding allocated from the state budget for infrastructure initiatives, as well as the extent to which private investment and international financial assistance were secured.
4. Socio-economic conditions: This criterion assessed the impact of infrastructure projects on social conditions, including employment levels, quality of life, and accessibility and comfort for residents.
5. Safety and environmental responsibility: This aspect considers the environmental and safety factors that could influence project effectiveness, including environmental protection measures and strategies to minimise risks to the population.

The study utilised the comparative analysis method to examine international experiences in financial management and the administration of infrastructure projects. Countries with developed economies – Poland, Germany, the USA, and Japan – were selected for the analysis due to their diverse models of financing and administering large infrastructure initiatives. This method facilitated the study of key aspects, including the use of public-private partnerships (PPP), government bonds, innovative technologies, and principles of sustainable development. For comparison, the financial mechanisms and administrative challenges specific to Ukrainian infrastructure projects were also analysed, including the "Strategic Development of Infrastructure Projects in Ukraine: Drive Ukraine 2030" (2024) and the Economic Laboratory for Economic Recovery (KSE Economy Recovery Lab, 2025).
Based on the findings of the comparative analysis, recommendations were developed for Ukraine. These included the creation of a stable legal framework for PPPs and the enhancement of coordination between the public and private sectors. The analysis of international experience also identified effective financing instruments, such as government bonds, and highlighted best management practices employed in the EU and the USA.

3. Results

3.1 Assessment of modern financial management and administration strategies in the implementation of Infrastructure projects in the context of post-war economic recovery

Since the start of Russia's full-scale invasion of Ukraine in February 2022, the physical damage caused by the war is estimated at approximately 135 billion US dollars, equivalent to 60% of the country's pre-war GDP. Total economic losses have reached an estimated USD 290 billion, while the projected cost of recovery and reconstruction could rise to USD 411 billion (Second Ukraine Rapid Damage… 2023). During the first year of the war, Ukraine's GDP contracted by 29%, though by 2023, signs of growth were recorded following this sharp decline (Fig. 1). This significant economic downturn led to an increase in the poverty rate, which surged from 6% to 24% in 2022, based on the poverty threshold of USD 6.85 per person per day. Consequently, an additional 7.1 million people fell below the poverty line, effectively reversing 15 years of economic progress.

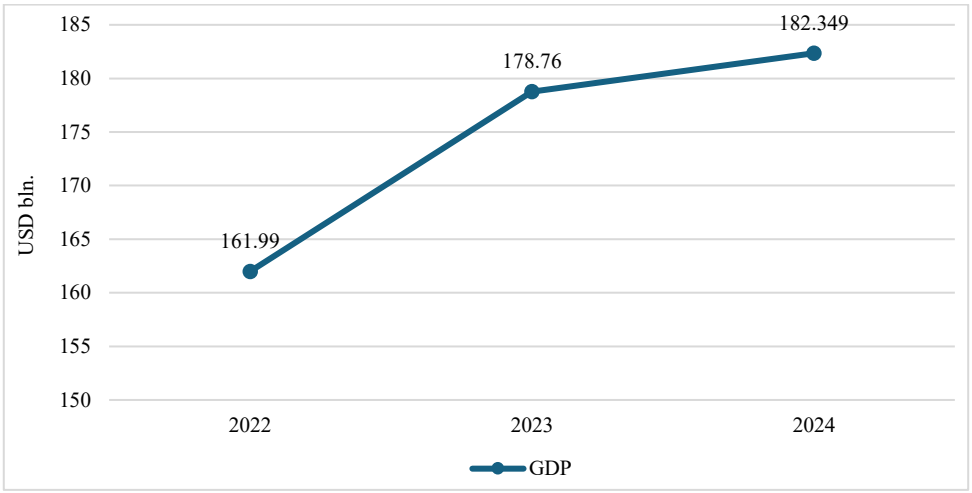

Fig. 1: Dynamics of Ukraine's GDP for the period 2022-2024, USD bln.

Source: compiled by the authors based on the Ministry of Finance of Ukraine (2025).

War-induced displacement and migration have emerged as critical issues, with changing patterns over time. As of the end of December 2023, approximately 6.4 million Ukrainians were displaced abroad, mostly within Europe. By January 2023, there were around 5.4 million internally displaced persons (IDPs) in Ukraine. However, by September 2023, the number of IDPs had decreased to 3.7 million, while the number of returnees reached 4.6 million. An estimated 90% of those who left the country were forced to flee due to ongoing hostilities (Operational Data Portal… 2024). The ramifications of migration are complex: although the reintegration of certain IDPs presents an opportunity for national reconstruction, the extended displacement of millions has resulted in considerable challenges, such as a strained labour market, the exhaustion of qualified workers, and the obligation to deliver services and support for both IDPs and returnees. Moreover, migration has facilitated Ukraine's participation in European labour markets. However, it has also induced demographic changes that might affect future economic stability and social cohesion.
In the context of economic recovery following crises such as wars or economic downturns, infrastructure projects play a particularly vital role as they can serve as key drivers of stability and growth. The "Strategic Development of Infrastructure Projects in Ukraine: Drive Ukraine 2030" is an ambitious plan aimed at modernising and developing the country's infrastructure over the coming years to ensure sustainable economic growth, enhance the quality of life for citizens, and integrate Ukraine into the European economic community. The primary goal of the project is to create modern, efficient, and safe infrastructure that meets the needs of the population, businesses, and government bodies in transport, energy, communication, and other essential services. The initiative includes a series of measures such as modernising road infrastructure, developing new transport networks – including highways, railways, airports, and seaports – and strengthening the country's energy security through investments in energy grid renewal and renewable energy sources. Significant attention is also given to the development of intelligent transport systems, the construction of "green" infrastructure, and the improvement of environmental standards. A key feature of the project is its emphasis on attracting both domestic and international investments. Active collaboration with European countries and international financial organisations is envisioned to secure the necessary funding and technology for implementing these infrastructure advancements. The project prioritises the adoption of innovative technologies, including the digitalisation of infrastructure, automation of transport systems, and the development of "smart" cities. The implementation of the Drive Ukraine 2030 initiative is expected to improve transport accessibility, create new jobs, enhance economic integration with other countries, and boost Ukraine's competitiveness on the global stage. Additionally, it aims to foster improved business conditions by simplifying logistics processes and

enhancing infrastructure support for small and medium-sized enterprises (Horoshkova & Sumets, 2022). However, the project's successful implementation requires addressing several challenges, including political instability, economic difficulties, corruption, and an insufficient legal and regulatory framework. Overcoming these obstacles necessitates a clear strategy, coordinated efforts between public and private sectors, and robust international support to ensure the sustainability of the infrastructure developments. Overall, the "Strategic Development of Infrastructure Projects in Ukraine: Drive Ukraine 2030" is a critical step toward infrastructure modernisation and national economic growth. It represents a significant opportunity for Ukraine to strengthen its position on the world stage and achieve long-term sustainable development.

Improving the quality of infrastructure enhances a country's attractiveness to both foreign and domestic investors, as it reduces business risks and operating costs (Shahini & Shtal, 2023). Moreover, developed infrastructure stimulates the growth of small and medium-sized enterprises by facilitating easier access to resources, reducing logistics costs, and creating new opportunities for business development. The environmental aspects of infrastructure projects are particularly important. The draft recovery plan for Ukraine, developed by the "Ecological Security" working group, aims to ensure environmental sustainability in the country's post-war recovery (Strilets, 2022). The primary goal of the plan is to integrate environmental considerations into reconstruction and development processes, thereby fostering sustainable and environmentally responsible economic growth. This plan outlines several strategic measures focused on environmental protection, the restoration of natural resources, addressing the consequences of military actions, improving energy efficiency, and introducing new ecological technologies. Among the priority measures are the decontamination of areas affected by military operations, including the removal of toxic substances and ammunition remnants. The plan also addresses the restoration of water and land resources damaged during hostilities, reforestation – particularly in fire-affected areas – and the enhancement of environmental monitoring systems. Another critical component is strengthening climate change adaptation through improved risk management for natural disasters and supporting projects aimed at reducing greenhouse gas emissions. The plan further promotes the development of new ecological construction standards, incorporating global best practices in sustainable development and reducing the environmental impact of construction activities. The Environmental Security Working Group underscores the importance of international cooperation, donor funding, and active public participation in implementing these environmental measures. The project is part of Ukraine's broader Recovery Plan, which aims to build a modern, environmentally conscious state with high standards of environmental safety and sustainable development. Economic recovery must consider environmental risks and prioritise projects that not only meet developmental goals but also ensure sustainable practices that minimise environmental harm. For example, energy-efficient construction projects, environmentally friendly transport systems, and advanced water treatment facilities can significantly reduce the negative environmental impact (Naumenkova et al., 2024; Puchkovska et al., 2004). These measures, in turn, enhance the region's overall resilience, making it better equipped to handle future economic and environmental challenges. Infrastructure projects play a pivotal role in economic recovery, contributing to job creation, boosting competitiveness, attracting investment, and improving the quality of life for the population (Herus, 2024). They form the foundation for sustainable development, providing the physical framework for economic activity while improving social conditions by reducing unemployment and raising living standards.

Infrastructure project management is a critical aspect of project implementation, particularly for large-scale initiatives that span multiple sectors of the economy and require the coordination of numerous stakeholders. Effective management is essential to ensure smooth processes, efficient resource utilisation, adherence to deadlines and budgets, and the achievement of project goals, especially in the context of economic recovery (Damyanov et al., 2021; Kavaldzhieva, 2019). Moreover, robust infrastructure project management fosters trust among the public, investors, and international partners. Successful infrastructure project management begins with clearly defining the roles and responsibilities of all participants. This applies to both public authorities and private sector stakeholders, including investors, material and equipment suppliers, contractors, and consultants. A lack of clear coordination between participants can lead to delays, budget overruns, and inefficient use of resources, all of which negatively impact project outcomes. To achieve effective management, it is essential to establish a well-defined project management strategy (de-Almeida-e-Pais et al., 2023). This involves meticulous planning, the development and analysis of detailed work schedules, and the identification of key milestones and criteria for evaluating progress and outcomes. A crucial component of this strategy is the implementation of monitoring and control systems that enable the early detection of deviations from the plan and the prompt adoption of corrective measures. These systems can be enhanced using modern information technologies, particularly specialised software platforms for monitoring and project management. Such tools allow for the automation of various aspects of the project, ensuring transparency and accountability at every stage of implementation.

An essential component of infrastructure project administration is financial management. Given that infrastructure projects typically require significant financial investments, it is crucial to ensure effective financing and strict control over the use of funds (Brych et al., 2022). This entails not only securing public and private investments but also managing budgets effectively, allocating resources across different stages of the project, and maintaining cost control during implementation. For example, the Kyiv School of Economics (KSE) Economy Recovery Lab is an initiative aimed at supporting Ukraine's economic recovery following the devastating impact of the war. Established by the KSE, the lab focuses on developing scientifically grounded recovery strategies, including analytical models, forecasts, and policy proposals to promote economic growth and stability. A key area of the lab's work involves analysing the current economic situation, identifying pressing issues such as inflation, unemployment, and declining production, and designing effective mechanisms to finance infrastructure recovery and support entrepreneurship. The lab actively collaborates with government agencies, international financial institutions, and donor organisations, providing data-driven and research-based recommendations for policy-making. By leveraging innovative economic models and analyses, the KSE Economy Recovery Lab aims to create a holistic approach to recovery, including strategies for rebuilding infrastructure, supporting businesses, and integrating Ukraine into the global economy. In infrastructure project administration, transparency and accountability are paramount to mitigating corruption risks and maintaining trust from both the public and international partners. Additionally, robust risk management is critical due to the inherent complexities and high stakes of infrastructure projects, which often involve significant investments, lengthy implementation timelines, and multiple stakeholders. Risks can arise across various domains, including economic, political, technical, environmental, and social factors. For example, the Resolution of the Cabinet of Ministers of Ukraine No. 854 "On the Implementation of a Pilot Project on the Functioning of the Tax Risk Management System (Compliance Risk Management) in the State Tax Service" (2024), launched a pilot project for implementing a tax risk management system (compliance risks) within the State Tax Service. This initiative aims to establish an effective system for controlling and managing tax risks, enhancing tax discipline, and minimising tax evasion risks. The project includes developing tools for automated monitoring and assessment of tax risks, enabling the timely detection and prevention of potential violations. The tax risk management system also seeks to strengthen trust between businesses and the state by introducing transparent and reliable risk assessment mechanisms (Shtal et al., 2024). Moreover, this approach reflects the government's commitment to modern compliance standards, which will help reduce the administrative burden on taxpayers and improve the efficiency of tax administration. To minimise risks in infrastructure project administration, it is essential to adopt comprehensive risk management strategies, such as forecasting potential challenges, developing contingency plans, and preparing for shifts in the

political or economic environment (Leontyev & Ketners, 2023). Another critical aspect of project administration is engaging with local communities, as infrastructure projects can significantly impact the environment and residents' lives. Ensuring transparency and openness in the project process – including sharing information about its goals, implementation stages, and potential consequences – helps to reduce social tension and gain public support, which can greatly facilitate project implementation (Mukanov et al., 2018). A particularly important strategy is the adoption of public-private partnerships (PPP). This approach enables the mobilisation of private investments for infrastructure projects, thereby reducing the burden on the state budget.

For the successful implementation of PPP, it is essential to establish a robust legal framework. This framework should regulate the relationship between the state and private partners, ensure transparency and accountability, and minimise risks for both parties. Successful administration of infrastructure projects also relies on the effective management of resources. This includes financial resources, human capital, materials, and technologies. Engaging qualified specialists at various stages of the project, utilising the latest technologies to enhance efficiency and reduce costs, and ensuring a highly skilled workforce are all crucial for the success of infrastructure initiatives (Shtal et al., 2023; Tyukhtenko & Makarenko, 2016). Effective administration of infrastructure projects is, therefore, a prerequisite for their successful implementation. It ensures compliance with deadlines and budgets, high-quality execution of work, the achievement of planned objectives, and sustainable economic development. To evaluate the effectiveness of infrastructure projects, various factors influencing their implementation at the regional level must be considered. These include economic activity, infrastructure readiness, public funding and investment levels, socio-economic conditions, as well as safety and environmental responsibility. Applying these criteria allows not only for a comparison of the effectiveness of infrastructure projects across different regions but also for the identification of potential barriers and strategies to address them. The detailed criteria used to analyse regional indicators of infrastructure projects, specifically within the "Strategic Development of Infrastructure Projects in Ukraine: Drive Ukraine 2030" (2024) initiative, are presented in Table 1.

Table 1: Criteria for analysing regional indicators of infrastructure projects

Criteria	Description
Economic activity of the region	Evaluation of the region's production capacity and level of investment attractiveness, with a focus on identifying economic centres that exhibit high levels of consumption and demand for infrastructure services
Infrastructural readiness of the region	Assessment of the current state of infrastructure, including transport networks, energy facilities, water supply, and sewage systems, as well as the region's capacity to integrate new projects into the existing infrastructure framework
Level of public funding	Analysis of the amount of funding allocated from the state budget for infrastructure initiatives, along with the extent to which private investments and international financial assistance are attracted to support these projects
Socio-economic conditions	Examination of the impact of infrastructure projects on social conditions, particularly in terms of employment levels, quality of life, and the accessibility and comfort provided to residents
Safety and environmental responsibility	Consideration of environmental and safety factors that influence the effectiveness of project implementation, including measures for environmental protection and the minimization of risks to the population

Source: created by the authors, Drive Ukraine 2030 (2024).

Financing infrastructure projects is a crucial aspect of their implementation, as these initiatives often require substantial capital investments and have a long-term nature, which directly impacts their success. For the effective recovery of a country's economy, a well-defined financing strategy is essential. This strategy should encompass various sources of capital, investment attraction tools, and financial management mechanisms. In the context of the "Strategic Development of Infrastructure Projects in Ukraine: Drive Ukraine 2030", particular emphasis should be placed on optimising the balance between public and private financing. Infrastructure initiatives are typically complex and costly, requiring substantial resources for successful implementation. For this project, ensuring transparency in financial management, maintaining flexibility in the selection of financial instruments, and fostering close cooperation between the public and private sectors are of paramount importance. Public financing generally involves the use of budgetary funds, which serve as the primary foundation for infrastructure development (Ketners et al., 2024). These funds also help to minimise financial risks during the initial stages of project implementation. Simultaneously, the participation of international financial institutions, such as the World Bank and the European Bank for Reconstruction and Development (EBRD), through loans and grants, plays a critical role. This external support helps to cover a portion of the costs associated with large infrastructure initiatives, particularly those focused on the restoration of damaged facilities and the development of new transport and energy networks.

Private investment plays a vital role in financing infrastructure projects through PPP mechanisms. These partnerships enable the mobilisation of resources from private companies, significantly reducing the burden on the state budget and facilitating the development of infrastructure using innovative technologies and modern management approaches. An effective combination of diverse financing sources and close collaboration between public and private partners forms the foundation for implementing large-scale infrastructure projects under the "Drive Ukraine 2030" initiative, contributing to Ukraine's sustainable economic recovery.

One of the most important financing mechanisms is the PPP. This approach allows private investment to be channelled into infrastructure projects, alleviating the financial burden on the state budget. Within the framework of PPPs, agreements are established between the state and private companies, with each party assuming specific responsibilities while sharing risks and benefits. The private sector contributes a portion of the investment, while the state provides support in the form of subsidies, benefits, or guarantees. This model enables the realisation of large-scale infrastructure projects that are critical to economic development. Bond issuance is another key financing tool, enabling the state to raise funds for large infrastructure projects. Government bonds can be issued on both domestic and international financial markets. These bonds typically have low interest rates due to government guarantees, making them an attractive option for investors. However, the use of bonds necessitates high levels of financial responsibility, as debt repayment depends on the success of the projects and the overall economic condition of the country.

3.2 Main challenges and prospects for overcoming issues in financing and administering infrastructure projects by public and private structures

International financial organisations, such as the World Bank and the EBRD, play an active role in financing infrastructure projects. These institutions provide loans and grants to support initiatives that contribute to economic recovery (Multilateral Development Banks Deepen…, 2024; EIB, World Bank Group…, 2015). Additionally, they offer guarantees or partial risk coverage, which enhances the appeal of projects to private investors. By meeting international standards, projects not only ensure effective implementation but also promote the transparent use of funds. Grants and subsidies are important instruments for financing infrastructure projects. These funds, provided by government bodies or international organisations, can be allocated for research, development, or the application of innovative technologies. They are also commonly directed towards projects in social sectors such as healthcare and education, ensuring broader societal benefits. Foreign

investment represents another significant source of funding for infrastructure initiatives. Private capital infusion not only supports project development but also introduces advanced technologies, innovative management practices, and new ideas. To attract foreign investment, creating a favourable investment climate is essential. This includes ensuring legal stability, regulatory transparency, and predictable processes, which collectively foster trust in the country's economic environment and encourage investor participation in large-scale projects.
According to the study Support to the Economic Recovery of Ukraine (2024), Ukraine's recovery is expected to span four years, from 2024 to 2027, with an estimated total budget of USD 140 million, of which approximately USD 40 million has already been mobilised or is in the process of mobilisation. The primary objectives of the recovery effort include: creating opportunities for at least 100,000 self-employed individuals and entrepreneurs to earn income, with at least 50% being displaced persons, restored businesses, or businesses led by women; improving livelihoods for at least 1 million women and men, while creating or preserving at least 100,000 jobs, of which 50% will be accessible to women, youth, people with disabilities, internally displaced persons (IDPs), and veterans; benefiting at least 2 million people through enhanced employment opportunities and increasing sales in selected value chains by 20%; ensuring improved economic conditions for at least 5 million people.
Key development partners include Japan, the European Union, Germany, Switzerland, Sweden, the United States, the Republic of Korea, the Czech Republic, the International Chamber of Commerce, and transnational corporations. The beneficiaries of this recovery programme encompass Ukraine's Ministries of Economy, Foreign Affairs, Finance, Digital Transformation, and Education and Science, alongside communities, territories, and institutions involved in infrastructure development and social policy. Other beneficiaries include the National Bank of Ukraine, the State Employment Service, the State Regulatory Service, the Office for Promotion of Entrepreneurship and Export, and Ukraine Invest. The main recipients of support are:

- entrepreneurs, self-employed individuals, and employees.
- micro, small, and medium-sized enterprises (MSMEs).
- business support institutions, including business membership organisations and clusters.
- educational institutions, including vocational education and training centres.
- regional administrations, municipal and rural communities.
- civil society organisations, including women's and youth organisations.

Comparing approaches to financing and managing infrastructure projects in countries such as Poland, Germany, the United States, and Japan provides valuable insights into successful development strategies. These include the use of PPPs, issuing government bonds to raise funds, leveraging digital platforms for monitoring, and applying innovative technologies to enhance efficiency and transparency. A detailed analysis of these management models, summarised in Table 2, will facilitate the adaptation of international best practices to Ukraine's unique circumstances, ultimately improving the efficiency of infrastructure project implementation.

Table 2: Comparative analysis of international experience in financial management and administration of infrastructure projects

Country	Public-private partnership (PPP)	Use of government bonds	Innovative technologies in project management	Sustainable development	Peculiarities in Ukraine
Poland	Active use, support through legislation	Used to finance large projects	Widespread adoption of digital technologies for project management	Focus on energy saving and environmental standards	Lack of stable legal regulation of PPP
Germany	Developed PPP, provided with state guarantees	Active use of bonds for large infrastructure projects	High level of use of innovative technologies in construction	High standards of sustainable development and environmental responsibility	Needs improvement in funding mechanisms
USA	Various PPP models are used at the state and local levels	Frequent practice of raising bonds for financing	Intensive use of digital platforms for monitoring and management	Focus on sustainable development and environmental safety	Problems with administrative barriers
Japan	Traditionally strong use of PPP for infrastructure development	Bonds are used for large infrastructure projects	High-tech infrastructure management	Great attention to environmental aspects in design	Limited private sector involvement due to bureaucratic obstacles
Ukraine	Limited use, need for an improved legal framework	Used in limited volume	Some attempts to integrate innovative technologies	Efforts are aimed at restoring ecology and infrastructure after the war	Needs administrative and legislative reforms

Source: created by the authors Kudrjashov (2024).

According to the data in the table, Ukraine can use international experience in several areas to effectively restore its infrastructure. First, the country can significantly increase the use of public-private partnerships by improving the legislative framework and creating stable mechanisms for attracting private investment, as is done in Poland and Germany. Also, as in the United States, it is possible to more actively attract government bonds to finance large projects, which will allow mobilising the necessary funds for the restoration of infrastructure. In addition, the use of innovative technologies in project management, as is practised in Germany and Japan, will be important for ensuring transparency and efficiency in management processes. Ukraine should also consider the orientation towards sustainable development, in particular environmental standards, which are of great importance for the restoration of infrastructure after the war, as the country is actively working on environmental initiatives and the restoration of damaged ecosystems. For example, an increase in interest rates can lead to an increase in debt servicing costs, which will make financing more expensive and less accessible. Frequent changes of government, changing political priorities, and instability in governance can lead to delays in the implementation of infrastructure projects or even their suspension (Zayats, 2024). Political risks can also affect the legal and regulatory framework, making it difficult to plan and implement long-term infrastructure initiatives. Changing legislation or revising the terms of public-private partnerships can lead to additional costs and changes in the financing conditions of projects. The lack of clear norms for the implementation of infrastructure projects, ineffective application of existing laws, or inadequate control mechanisms can lead to abuse, corruption, and delays in the implementation of projects. This can also negatively affect investment attractiveness and the ability to attract the necessary funds for projects. Infrastructure projects can have significant environmental impacts, including pollution, loss of biodiversity, or destruction of natural resources (Rogovyi et al., 2020; 2021).
Underestimating environmental risks can result in additional costs for environmental restoration or even legal sanctions (Matviichuk et al., 2023). Furthermore, social aspects, such as the impact on local communities, can pose challenges. Issues related to population relocation, land compensation, or changes in social conditions can trigger social protests, leading to delays and increased costs. Another important challenge lies in managing the risks associated with technological innovation. Many infrastructure projects incorporate the latest technologies and innovative solutions to enhance efficiency and reduce costs (Batygin et al., 2013; Kuznetsov et al., 2020). However, implementing such technologies can bring technical challenges, uncertainties about their long-term impacts on the project, and additional costs for development and integration. These challenges may be exacerbated if the technologies fail to meet required standards or lack sufficient

local support (Panchenko et al., 2024). Uncertainty in attracting investment is also a significant risk. Infrastructure projects often demand substantial capital, and attracting investors can be difficult due to the high level of risk associated with long-term commitments and the need to guarantee stable returns. This issue is particularly pronounced in countries facing economic difficulties or unpredictable political situations.

Risks related to financial losses and market uncertainty can diminish the attractiveness of infrastructure investments. Another challenge is ensuring adequate coordination among various project participants, such as public authorities, private partners, and international organisations. Ineffective communication and a lack of clear governance mechanisms can lead to discrepancies in objectives, timelines, and costs. This, in turn, may delay project implementation and increase the risk of budget overruns. Overall, the financial management and administration of infrastructure projects require a comprehensive approach to assessing the risks and challenges that arise at different stages of implementation. Identifying potential threats and addressing them promptly minimises the negative impact on project success and ensures the stability and sustainable development of infrastructure.

3.3 Practical recommendations for effective financing, management, and control of infrastructure projects in Ukraine

Based on a comparison of international experiences in financial management and the administration of infrastructure projects, several key recommendations have been formulated to optimise Ukraine's national infrastructure development strategy. First and foremost, the importance of developing a stable legal framework for the use of PPPs was emphasised. PPPs are a crucial tool for financing large infrastructure projects. For the effective involvement of the private sector in infrastructure development, it is essential to ensure legal transparency, stability of contract terms, and robust protection of investors' rights. These measures will create a favourable investment climate and stimulate infrastructure development across the country. The second critical aspect is improving coordination between the public and private sectors. International experience, particularly in the European Union and the United States, has demonstrated that the success of infrastructure projects often hinges on clear communication and effective interaction between government agencies and private investors. To achieve this, Ukraine should establish platforms for joint discussions, information exchange, and collaborative decision-making at all stages of project implementation. This approach will enhance resource allocation efficiency and enable faster responses to challenges that may arise during project execution. The theoretical strategy for financial management and administration of infrastructure projects in Ukraine was developed based on the analysis of international practices, particularly those in the EU and the USA. This strategy incorporates factors that contribute to the effective use of PPPs, including long-term stable agreements between partners; transparent financing mechanisms to ensure accountability; mutual risk sharing between public and private entities; joint project management, fostering collaboration throughout the project lifecycle.

International practices have demonstrated that PPPs are an effective tool for financing infrastructure initiatives. PPPs help to reduce the financial burden on the state budget, attract private capital, and ensure the long-term sustainability of project implementation (Drobot and Yasinskyj, 2023). Additionally, the use of digital platforms for monitoring and evaluating infrastructure projects was examined. In EU countries, particularly in Germany and Sweden, innovative digital tools are actively utilised for managing large-scale projects (Gazuda et al., 2025). These platforms enable real-time monitoring, reduce bureaucratic obstacles, enhance transparency, and ensure the accuracy of financial reporting. By automating management processes, they simplify the monitoring of resource utilisation and the implementation of project stages. This is a critical element for ensuring the timely completion of projects and achieving planned outcomes. The financing of infrastructure projects through government bonds and other financial instruments was also analysed based on international practices. In countries with developed economies, such as the United States, Japan, and Germany, bond programmes are widely employed to secure funding for large infrastructure projects. These programmes provide stable financing across all stages of project implementation while minimising the strain on the state budget.

In Ukraine, these methods can be implemented provided that appropriate legislative initiatives are developed to facilitate the attraction of external and internal investments through government bonds, as well as international financial resources to finance infrastructure initiatives. During the formulation of the strategy, special attention was given to sustainable infrastructure development, an essential element for ensuring socio-economic stability. International practices, such as those in the USA and Germany, highlight sustainable development as an integral part of managing infrastructure projects. This includes adherence to environmental standards, promoting economic efficiency, and ensuring social responsibility. For Ukraine, it is crucial to integrate these principles into its infrastructure development strategy to achieve not only short-term gains but also long-term stability and progress. The recommendations for Ukraine focus on the following key areas:

- Establishing a robust legal framework for the development of PPPs.
- enhancing coordination between the public and private sectors.
- Leveraging digital technologies to monitor and evaluate infrastructure projects.
- Attracting financing through government bonds and other financial instruments.
- Ensuring sustainable infrastructure development by integrating environmental, economic, and social considerations into project planning and implementation.

These strategies, adapted to Ukraine's national context, should serve as the foundation for further development of the country's infrastructure sector. By adopting these measures, Ukraine can increase the efficiency of investments and support its broader economic recovery.

4. Discussion

Ukraine's infrastructure is a critical factor in economic development and stability, particularly in the context of post-war reconstruction. Restoring Ukraine's economy and infrastructure requires an effective combination of public and private resources. Key aspects include strategic planning aimed at developing transport infrastructure and attracting investments to ensure financial and economic depth for sustainable growth. Public finance and risk management are essential to maintaining the sustainability of economic recovery. This includes the implementation of best practices in financial management and the development of infrastructure projects. These factors are closely interrelated and significantly influence the success of recovery efforts. Adopting such approaches minimises risks and optimises the use of available resources. The findings of the research confirm that international cooperation plays a vital role in restoring infrastructure and ensuring the country's financial stability. The study by Orel et al. (2024) examined economic and financial mechanisms that support the development of infrastructure projects, particularly in the context of Ukraine's post-war reconstruction. The authors emphasised the importance of using PPP mechanisms to attract investments for infrastructure restoration. In addition, the study explored other innovative financial instruments that could be leveraged to finance large-scale infrastructure projects. A significant focus of the research was on legal

and administrative barriers that impede the effective management of infrastructure projects in Ukraine. The authors analysed the existing legislative and administrative challenges that delay and hinder the efficient implementation of projects, a particularly critical issue during the period of post-war reconstruction. To address these challenges, the authors compared Ukrainian practices with international examples of successful infrastructure project implementation using PPPs and other financial mechanisms. This comparative analysis helped to identify both the strengths and weaknesses of Ukraine's infrastructure management system.

In addition, the digitalisation of management processes within infrastructure projects has proven effective in reducing costs, improving transparency, and automating financial monitoring. This aligns with the findings of Telfah et al. (2023), and Umair & Dilanchiev (2022), who studied the role of financial markets in supporting green economic recovery. Their research confirmed that integrating environmental aspects into financial planning contributes to achieving sustainable economic development, particularly in the context of globally increasing environmental requirements. A differentiated approach to regional project management has also demonstrated its effectiveness. The data collected corroborated the conclusions of Turchak (2023), who highlighted the importance of addressing the specific needs of different territories to enhance the effectiveness of recovery efforts. This approach is particularly relevant for regions that have been affected by military actions to varying extents. Overall, the results of the study identified promising areas for developing management strategies for economic recovery. These include strengthening international cooperation, integrating digital technologies and environmental standards, and tailoring approaches to regional specificities.

The study paid significant attention to the effective attraction of international aid, identifying it as one of the key factors for successful economic recovery. The results confirmed that transparency in the use of financial resources is critically important for building trust among international partners and donors. This finding aligns with the research of Novikova et al. (2023), who highlighted that transparent and accountable management of international aid ensures its sustainable flow and fosters long-term cooperation. In the context of financial resource management, the study revealed certain discrepancies with other research findings. For instance, Jóźwiak (2023), in an analysis of the Polish financial system, concluded that centralised management enables more effective control and coordination. However, the study's results indicated that for Ukraine, which faces heterogeneous regional challenges, a decentralised approach is more appropriate. This approach considers the specific needs of different regions, particularly those most affected by the war, and enhances the flexibility of financial management while ensuring the efficient use of resources. Additionally, a study by Prabawa & Purwanti (2024) emphasised the importance of financial support for the private sector in economic recovery, noting that private investment can accelerate project implementation. However, the results of this study also highlighted the risks associated with excessive reliance on private financing. This concern is particularly relevant in conditions of macroeconomic instability, where state financial support can serve as a more reliable source of investment. Such an approach helps to minimise financial risks and provides greater resilience to external economic challenges.

In particular, financial management and administration in the implementation of infrastructure projects can focus on analysing the role of civil society in monitoring these projects. This issue was partially addressed in the work of Petrukha et al. (2024), which highlighted the importance of transparency and public involvement in monitoring and assessing the effectiveness of budget spending. The active participation of civil society can help reduce corruption, increase trust in government, and enhance the effectiveness of infrastructure restoration. This is especially significant for Ukraine in the context of post-crisis recovery. The integration of environmental standards into financial planning also merits further attention. The work of Tsiatkovska et al. (2024) emphasised the necessity of incorporating environmental considerations when financing infrastructure projects. Considering global trends towards sustainable development and the green economy, Ukraine should continue integrating environmental standards into public finance management and post-war recovery efforts. This approach not only fosters environmental sustainability but also opens avenues for attracting additional financial resources through mechanisms such as green bonds and other sustainable financing instruments.

The study of economic risks associated with involving the private sector in financing infrastructure projects is an important area for further research. In conditions of economic instability, as noted by Tkachenko (2024) and Petrunenko (2024), excessive dependence on private financing can pose significant risks to economic stability. Developing balanced approaches to infrastructure project financing – incorporating both public and private sources – can help mitigate these risks. This issue is particularly relevant for Ukraine, where the need for public support is combined with the necessity of attracting private investment to rebuild damaged infrastructure. The results of the study underscored the importance of effective financial management and administration in post-war economic recovery. These findings align with the conclusions of international authors while highlighting the unique aspects of the Ukrainian context. Key issues include transparency, digitalisation, the attraction of international resources, and the integration of environmental standards into financial mechanisms. The specificity of Ukraine lies in addressing persistent challenges such as ongoing conflict, regional inequalities, and high levels of corruption, all of which shape the country's financial management landscape.

In general, the economic risks associated with involving the private sector in infrastructure financing, as noted by many authors, emphasize the need for balanced approaches to avoid over-reliance on private investment, which could lead to instability. In Ukraine's context, it is critical to combine state support with private investment to accelerate infrastructure recovery. Effective financial management, transparency, and adherence to international standards have emerged as key components for achieving sustainable development. Amid conditions of war and economic uncertainty, the adoption of digitalisation and environmental standards in financial mechanisms is particularly relevant.

5. Conclusions

A study on the financial management and administration of infrastructure projects for economic recovery identified key aspects that influence the effectiveness of such projects. The assessment of factors contributing to the successful financing and management of infrastructure projects provided both theoretical and practical insights, which can be utilised to develop economic recovery strategies. The study confirmed that the transparency of financial mechanisms, the integration of digital technologies, and the involvement of the private sector are critical factors for the success of these initiatives. The main conclusion drawn is that the effective implementation of infrastructure projects requires a comprehensive and systemic strategy that considers not only financial but also social, environmental, and political dimensions. Strategies incorporating effective budget management, the use of innovative financial instruments, and the active participation of the private sector through public-private partnerships (PPPs) are particularly significant. These strategies help reduce financial risks and ensure the long-term sustainable development of infrastructure. The analysis revealed that mechanisms such as government bonds, stock instruments, and shares are effective for attracting investments, particularly in situations where the state budget is constrained. However, the success of these mechanisms depends on the establishment of a stable legal framework that ensures transparency and accountability in their use. Additionally, the adoption of digital technologies in managing infrastructure projects has proven to significantly enhance the efficiency of monitoring and evaluation processes. This enables faster responses to deviations from plans and facilitates timely adjustments to strategies.

The study highlighted the importance of international cooperation and attracting investments from international financial institutions. This approach not only brings additional resources but also facilitates the adaptation of international best practices to Ukraine's specific context. However, the study also noted that administrative barriers and incomplete integration of innovative technologies into financial mechanisms remain significant obstacles to effective project management. To address these challenges, it is essential to improve the legislative and regulatory framework, which will enable more efficient use of available resources. The quantitative results of the study confirmed that the introduction of innovative financial instruments can reduce overall implementation costs and improve project efficiency. Furthermore, the digitalisation of management processes has significantly increased transparency, enhancing cost control and reducing the risks of abuse. The study also found that socio-economic conditions, such as employment levels and the quality of life of residents, have a profound impact on the success of infrastructure projects. Simultaneously, infrastructure development contributes to improving these conditions, which is critical for ensuring sustainable economic development.

The study advocates for the adoption of a comprehensive and systematic approach to infrastructure projects, taking into account financial, social, environmental, and political factors. Efficient budget management, novel financial tools, and private sector engagement via PPPs are essential for mitigating financial risks and guaranteeing the sustainability of infrastructure in the long run. The efficacy of investment instruments like government bonds and equities relies on the creation of a solid legal environment that guarantees openness and accountability. Moreover, the use of digital technology in the administration and assessment of infrastructure projects augments efficiency, enabling prompt modifications and enhanced oversight. International collaboration and the attraction of investments from global financial institutions are crucial, providing supplementary resources and enabling the implementation of best practices suited to Ukraine's unique requirements. Mitigating administrative obstacles and improving the legal framework would facilitate more effective resource utilisation. Socio-economic factors, such as employment rates and quality of life, must be considered since they substantially affect the efficacy of infrastructure projects and foster sustainable economic growth.

For further research in this field, it is essential to focus on improving financing models for infrastructure projects, particularly through enhanced public-private partnership mechanisms. Attention should also be directed towards developing more effective mechanisms for monitoring and evaluating project outcomes and integrating environmentally sustainable practices into infrastructure financing.

References

[1] Alekseyenko L, Tulai O & Babii S (2023) Recovery of the economy: Financing and compliance with the principles of transparency in the conditions of geopolitical opposition. World of Finance 2(75), 106-124. https://doi.org/10.35774/sf2023.02.106

[2] Batygin YV, Golovashchenko SF & Gnatov AV (2013) Pulsed electromagnetic attraction of sheet metals - Fundamentals and perspective applications. Journal of Materials Processing Technology 213(3), 444–452.

[3] Brych V, Skrynkovskyy R, Shkvarchuk L, Liakhovych G, Slav'yuk R & Borysiak O (2022) Portfolio Optimization of Equity Funds. In: Proceedings - International Conference on Advanced Computer Information Technologies, ACIT (pp. 207–210). Ruzomberok, Slovakia. https://doi.org/10.1109/ACIT54803.2022.9913202

[4] Bulyk O (2023) Strategy for recovery of Ukraine's economy after the war. Economy and Society 48. https://doi.org/10.32782/2524-0072/2023-48-51

[5] Cheng Q, Chen B & Luo J (2024) The impact of digital tax administration on local government debt: Based on the revision of the tax collection and administration law. Finance Research Letters 67(Part B), 105938. https://doi.org/10.1016/j.frl.2024.105938

[6] Chornovol A, Tabenska J, Tomniuk T & Prostebi L (2020) Public finance management system in modern conditions. Investment Management and Financial Innovations 17(4), 402-410. https://doi.org/10.21511/imfi.17(4).2020.34

[7] Chugunov I, Makogon V, Titarchuk M, Nychyk V & Hrehul V (2024) Financial support for the economy development of Ukraine. Financial and Credit Activity Problems of Theory and Practice 1(54), 307-315. https://doi.org/10.55643/fcaptp.1.54.2024.4253

[8] Damyanov D, Kavaldjieva K, Vlahova B & Lazarov V (2021) Innovation Process and Degree of Innovation and Innovation Activity. In: International Conference on High Technology for Sustainable Development, HiTech 2021 - Proceedings. Sofia: Institute of Electrical and Electronics Engineers. https://doi.org/10.1109/HiTech53072.2021.9614233

[9] Danylenko A & Venger V (2024) Market conditions and the role of the state in post-war economic recovery of Ukraine. Finance of Ukraine 5, 7-32. https://doi.org/10.33763/finukr2024.05.007

[10] de-Almeida-e-Pais JE, Raposo HDN, Farinha JT, Cardoso AJM, Lyubchyk S & Lyubchyk S (2023) Measuring the Performance of a Strategic Asset Management Plan through a Balanced Scorecard. Sustainability (Switzerland) 15(22), 15697. https://doi.org/10.3390/su152215697

[11] Drive Ukraine 2030 (2024) Available at: https://mtu.gov.ua/files/projects/str.html

[12] Drobiazko A, Kaminska O & Borshchuk O (2023) Credit portfolio of Ukrainian banks: Analysis of the impact of martial law. Finance of Ukraine (7), 99-112. https://doi.org/10.33763/finukr2023.07.099

[13] Drobot I & Yasinskyj V (2023) Organisational support for the development of public-private partnership. Democratic Governance 16(2), 114-125. https://doi.org/10.23939/dg2023.02.114

[14] Dugbartey AN & Kehinde O (2025) Optimizing project delivery through agile methodologies: Balancing speed, collaboration and stakeholder engagement. World Journal of Advanced Research and Reviews 25(01), 1237-1257. https://doi.org/10.30574/wjarr.2025.25.1.0193

[15] EIB, World Bank Group & EBRD (2015) Exceed Financing Targets for Central and South Eastern Europe. Available at: https://www.worldbank.org/en/news/press-release/2015/06/02/eib-world-bank-group-and-ebrd-exceed-financing-targets-for-central-and-south-eastern-europe

[16] Garafonova O, Yankovoi R, Zhosan H, Lomachynska I, Ananiev M & Dvornyk I (2023) International experience in applying innovative financial management strategies for business revitalization in the post-war period in Ukraine. Financial and Credit Activity Problems of Theory and Practice 6(53), 43-57. https://doi.org/10.55643/fcaptp.6.53.2023.4140

[17] Gazuda M, Tyukhtenko N, Lomachynska I, Dunai M, Vernydub V & Babich R (2025) The impact of digitalization and e-governance on transformation of state management mechanisms of the regional development. Journal of Theoretical and Applied Information Technology 103(3), 956–968. https://www.jatit.org/volumes/Vol103No3/14Vol103No3.pdf

[18] Grytsenko A, Bilorus O, Burlay T, Podliesna V & Borzenko O (2024) Ukraine's economy: Resilience under war and challenges for post-war recovery. Science and Innovation 20(5), 16-34. https://doi.org/10.15407/scine20.05.016

[19] Herus O (2024). Peculiarities of investment support for industries in the current environment. Economics, Entrepreneurship, Management 11(1), 57-66. https://doi.org/10.56318/eem2024.01.057

[20] Horoshkova L & Sumets A (2022) Experience of the eventual model application for logistics infrastructure assets' location in Ukraine and its regions. University Economic Bulletin 17(2), 152-170. https://doi.org/10.31470/2306-546X-2022-53-152-170

[21] Jóźwiak E (2023) Exercising management control in the Polish public finance system. Krytyka Prawa 15(2), 39-53. https://doi.org/10.7206/kp.2080-1084.593

[22] Kavaldzhieva K (2019) The Impact of Digitalization on the Measurement of value in the production and operation of industrial products. In: 2019 International Conference on High Technology for Sustainable Development, HiTech 2019 (Article number: 9128260). Sofia: Institute of Electrical and Electronics Engineers. https://doi.org/10.1109/HiTech48507.2019.9128260

[23] Ketners K, Jarockis A & Petersone M (2024) State budget system improvement for informed decision-making in Latvia. Scientific Bulletin of Mukachevo State University. Series Economics 11(3), 86–99. https://doi.org/10.52566/msu-econ3.2024.86
[24] KSE Economy Recovery Lab (2025) Available at: https://kse.ua/UA_Macro_Handbook_Jan2025.pdf
[25] Kudrjashov V (2024) Financial support for the recovery of Ukraine's economy. Finance of Ukraine 5, 33-50. https://doi.org/10.33763/finukr2024.05.033
[26] Kuznetsov BI, Nikitina TB & Bovdui IV (2020) Multiobjective synthesis of two degree of freedom nonlinear robust control by discrete continuous plant. Technical Electrodynamics 2020(5), 10–14. https://doi.org/10.15407/techned2020.05.010
[27] Leontyev A & Ketners K (2023) The improvement of decision-making in the latvian tax system: cases of irreducible incompatibility taking into account reliability, equity and efficiency criteria. Intellectual Economics 17(2), 322–343. https://doi.org/10.13165/IE-23-17-2-04
[28] Matviichuk L, Liutak O, Dashchuk Y, Lepkiy M & Sidoruk S (2023) Information system for diagnostic competitiveness of the hospitality industry of the regions of Ukraine. Informatyka, Automatyka, Pomiary w Gospodarce i Ochronie Srodowiska 13(4), 132–138. https://doi.org/10.35784/iapgos.5394
[29] Ministry of Finance of Ukraine (2025) Gross domestic product (GDP) in Ukraine 2025. https://index.minfin.com.ua/ua/economy/gdp/
[30] Mukanov A, Saduov A, Akbayev Y, Dulatbekova Z, Ospanova A, Selezneva I, Madiyarova E & Jempeissova G (2018) Composing of scenarios development in strategic planning. Journal of Environmental Management and Tourism 9(3), 491-500. https://doi.org/10.14505/jemt.v9.3(27).09
[31] Multilateral Development Banks (2024) Deepen Collaboration to Deliver as a System. Available at: https://www.worldbank.org/en/news/statement/2024/04/20/multilateral-development-banks-deepen-collaboration-to-deliver-as-a-system
[32] Naumenkova S, Tishchenko I, Mishchenko V & Mishchenko S (2024) Rethinking energy poverty alleviation through energy efficiency: Evidence from Ukraine. Environmental Economics 15(2), 198–214. https://doi.org/10.21511/ee.15(2).2024.14
[33] Novikova I, Zabarna E, Volkova O, Fedotova I & Korolkov V (2023) Economic prospects of post-war recovery: Challenges and opportunities for sustainable development in Ukraine. Financial and Credit Activity Problems of Theory and Practice 3(50), 298-307. https://doi.org/10.55643/fcaptp.3.50.2023.4091
[34] Operational Data Portal: Ukraine Refugee Situation (2024) Available at: https://data.unhcr.org/en/situations/ukraine
[35] Orel Y, Prochan A & Nesterenko O (2024) Prospects for the post-war recovery of Ukraine's economy: today's realities. Academic Visions 31.
[36] Panchenko A, Voloshina A, Antoshchenkov R, Halych I & Głowacki S (2024) Experimental Studies of the Wear on the Rotors' Working Surfaces of a Planetary Hydraulic Motor. In: Lecture Notes in Mechanical Engineering (pp. 498–508). Springer, Cham. https://doi.org/10.1007/978-3-031-42778-7_46
[37] Petrukha N, Klymenko K, Petrukha S & Miakota R (2024) Orthodox-innovative exposition of financial mechanisms of the post-war reconstruction of the economy of Ukraine. Economics, Finance and Management Review 2(18), 101-120. https://doi.org/10.36690/2674-5208-2024-2-101-120
[38] Petrunenko Y (2024) Socio-economic factors of recovery of Ukraine after the victory. Scientific Notes of Taurida National V.I. Vernadsky University Series Juridical Sciences 35(74), 68-75. https://doi.org/10.32782/tnu-2707-0581/2024.3/11
[39] Prabawa A & Purwanti D (2024) The effect of national economic recovery on the financial performance during the Covid-19 pandemic. Research: Journal of Accounting and Business Economics Applications 6(1), 16-31. https://doi.org/10.37641/riset.v6i1.2073
[40] Puchkovska GO, Danchuk VD, Kravchuk AP & Kukielski JI (2004) About the nature of phase transition in pure n-paraffin crystals. Journal of Molecular Structure 704(1-3), 119–123. https://doi.org/10.1016/j.molstruc.2003.12.063
[41] Resolution of the Cabinet of Ministers of Ukraine No. 854 (2024) On the Implementation of a Pilot Project on the Functioning of the Tax Risk Management System (Compliance Risk Management) in the State Tax Service. Available at: https://ips.ligazakon.net/document/KP240854?an=2
[42] Rivero del Paso L, Pattanayak S, Uña G & Tourpe H (2023) Digital solutions guidelines for public financial management. Technical Notes and Manuals 2023(007), A001. https://doi.org/10.5089/9798400251566.005.A001
[43] Rogovyi A, Khovanskyy S, Grechka I & Pitel J (2020) The wall erosion in a vortex chamber supercharger due to pumping abrasive mediums. In: Lecture Notes in Mechanical Engineering (pp. 682–691). Springer, Cham. https://doi.org/10.1007/978-3-030-22365-6_68
[44] Rogovyi A, Korohodskyi V, Khovanskyi S, Hrechka I & Medvediev Y (2021) Optimal design of vortex chamber pump. Journal of Physics: Conference Series 1741(1), 012018.
[45] Second Ukraine Rapid Damage and Needs Assessment (RDNA2) (2023) February 2022 – February 2023. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099184503212328877/p1801740d1177f03c0ab180057556615497
[46] Shahini E & Shtal T (2023) Assessment of the level of competitiveness of Ukrainian agricultural holdings in international markets. Ekonomika APK 30(6), 45–56. https://doi.org/10.32317/2221-1055.202306045
[47] Shtal T, Davydova O, Sysoieva S, Logvinkov S & Zhukov V (2024) Innovative risk management in the hotel and restaurant business: Scientific and practical aspect. Scientific Bulletin of Mukachevo State University. Series Economics 11(2), 116–125. https://doi.org/10.52566/msu-econ2.2024.116
[48] Shtal T, Ptashchenko O, Rodionov S & Kurtsev O (2023) Implementation of modern marketing tools in entrepreneurial activity. Economics of Development 22(4), 53–63. https://doi.org/10.57111/econ/4.2023.53
[49] Strilets S (2022) 5 priority directions in the field of environmental security have been identified for the Recovery Plan of Ukraine. Available at: https://www.kmu.gov.ua/news/ruslan-strilec-viznacheno-5-prioritetnih-napryamkiv-u-sferi-ekologichnoyi-bezpeki-dlya-planu-vidnovlennya-ukrayini
[50] Support to the Economic Recovery of Ukraine (2024) Key Parameters of the Offer. Available at: https://www.undp.org/sites/g/files/zskgke326/files/2024-02/undp-ua-ukraine-ser.pdf
[51] Telfah S, Chau KY, Tran TK, Bui AT, Tai NT & Phan TTH (2023) Role of financial markets and natural resource utilization in green economic recovery: Evidence from selected developing economies. Resources Policy 83, 103761. https://doi.org/10.1016/j.resourpol.2023.103761
[52] Tkachenko S (2024) Post-war economic recovery in Ukraine: Problems, risks and ways. Economies Horizons 2-3(28), 4-13. https://doi.org/10.31499/2616-5236.2(28).2024.300402
[53] Tsiatkovska O, Prymachenko O, Lezhnenko L, Feshchenko Y & Mykhalska O (2024) Accounting for non-financial assets in the public finance management system in Ukraine during the conflict. Theoretical and Practical Research in Economic Fields 15(2), 245-255. https://doi.org/10.14505/tpref.v15.2(30).08
[54] Turchak DV (2023) Peculiarities of applying mechanisms for the restoration and development of territories in accordance with functional types. Socio-Economic Problems of the Modern Period of Ukraine 6(164), 10-15. https://doi.org/10.36818/2071-4653-2023-6-2
[55] Tyukhtenko NA & Makarenko SM (2016) Economic and mathematic models for staff planning at enterprises of all ownership forms. Actual Problems of Economics 175(1), 435–442.
[56] Umair M & Dilanchiev A (2022) Economic recovery by developing business strategies: Mediating role of financing and organizational culture in small and medium businesses. Available at: https://www.researchgate.net/publication/361593244_Economic_Recovery_by_Developing_Business_Starategies_Mediating_Role_of_Financing_and_Organizational_Culture_in_Small_and_Medium_Businesses
[57] Zayats D (2024) Decentralisation reform in Ukraine: Achievements and implementation prospects amidst war conditions. Democratic Governance 17(2), 5-17. https://doi.org/10.56318/dg/2.2024.05