



Assessment of Socio-Economic Transformations in The Border Regions of Ukraine and Poland

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Abstract

The purpose of this article is to examine the socio-economic transformations of the border regions of Ukraine and Poland in the context of European integration processes, labor migration, and the impact of the war in Ukraine, as well as to assess the effectiveness of cross-border cooperation and the use of EU financial instruments for regional development. The study analyzes the characteristics of these transformations, shaped by the interplay of economic policy, European integration, and migration trends. It shows that these regions act as important hubs of economic and social interaction, reflecting differences in institutional capacity, labor markets, and investment potential. The research demonstrates that Poland's EU membership has ensured access to substantial financial resources, which have positively influenced the development of its border voivodeships. In contrast, Ukrainian regions remain in a phase of economic convergence and have limited access to similar support mechanisms. Labor migration is identified as a major factor driving transformation, affecting demographics, employment, and social dynamics. The analysis confirms that Poland remains the primary destination for Ukrainian labor migration, generating both opportunities for economic growth and challenges related to workforce imbalances and adaptation in the labor market. Moreover, the war in Ukraine has intensified these processes, putting additional pressure on Poland's social systems and labor market. The study emphasizes that cross-border cooperation is a key tool for the development of border regions; however, its implementation is uneven due to administrative barriers and differences in strategic priorities between the countries. Despite the expansion of Ukrainian regions' participation in European programs, their ability to attract funding remains limited compared to their Polish counterparts. The research substantiates the need to develop effective regional development strategies aimed at reducing economic asymmetry and ensuring sustainable development within the framework of Ukraine's European integration.

Keywords: Border Regions; Cross-Border Cooperation; Integration; Migration; Socio-Economic Transformations.

1. Introduction

The border regions of Ukraine and Poland serve as hubs of economic and social interaction, shaping a unique pattern of transformations influenced by global, European, and national factors. Structural shifts in these regions occur at the intersection of political changes, economic integration strategies, and labor mobility. At the same time, the level of socio-economic convergence between Ukraine and Poland remains uneven, necessitating a systematic analysis of key changes, their drivers, and their consequences. One of the main challenges in this context is the impetus for economic integration, which contrasts with the different development levels of the two countries. Since joining the EU in 2004, Poland has benefited from substantial financial inflows through structural and investment funds, stimulating the development of its border regions. Meanwhile, Ukraine, even after signing the Association Agreement with the EU and obtaining candidate status for EU membership, remains in a phase of institutional and economic approximation, resulting in asymmetry in growth rates and investment opportunities. This disparity in resource potential establishes unequal conditions for cross-border cooperation.

One of the most significant aspects of transformations, reflecting both economic and social changes, is the flow of migration between the two countries, which has intensified particularly since Russia's military aggression in 2022. Currently, Poland remains the primary destination for labor migration from Ukraine, significantly influencing the labor structure in border regions. The high intensity of migration processes alters employment levels, causing labor shortages in several sectors on the Ukrainian side while increasing labor supply in Poland. However, the long-term effects of these processes on local labor markets, demographic balance, and regional economic resilience remain underexplored. Furthermore, the institutional capacity of local authorities to manage economic transformations requires further research. Despite the presence of numerous cross-border cooperation programs, their effectiveness is often limited by bureaucratic barriers, insufficient funding, or differences in the strategic priorities of Ukraine and Poland. Additionally, the lack of a comprehensive approach to stimulating small and medium-sized enterprises in these regions leads to an uneven distribution of economic benefits from integration processes.

Thus, the study of socio-economic transformations in the border regions of Ukraine and Poland is crucial for developing effective regional development and cross-border cooperation strategies. Analyzing these processes will help identify structural imbalances and identify mechanisms to overcome economic asymmetry and support the sustainable development of the regions in the context of Ukraine's European integration.

2. Literature review

Research on socio-economic transformations in the border regions of Ukraine and Poland is widely covered in academic literature, primarily focusing on cross-border cooperation between these countries. Most scholars analyze the impact of European integration processes on border territories, disparities in economic development, and mechanisms for overcoming asymmetries between the regions.

One of the key aspects of research is the issue of regional economic convergence. Studies by Polish and Ukrainian researchers, including B. Wozniak-Jechorek [22], O. A. Korneliuk [9], M. Rudenko [16], and T. Shmatkovska [17], highlight that the development of Poland's border voivodeships is largely driven by the utilization of funding from European structural funds, which stimulates economic growth and infrastructure projects. In contrast, Ukrainian regions face limited access to such financial resources, exacerbating economic disparities between both sides of the border.

Cross-border cooperation and its impact on socio-economic development are also examined in the studies of the Institute of Regional Research of the NAS of Ukraine, particularly by K. Prytula [14], S. Ishchuk [5], and M. Buryk [1]. These studies emphasize the importance of Euroregions as platforms for resource exchange, small and medium-sized business development, and the implementation of joint educational and cultural programs. However, the author also notes that administrative barriers and legislative differences between Ukraine and Poland hinder the effectiveness of cross-border cooperation.

Migration aspects of socio-economic transformations in border regions are discussed in the works of P. Kaczmarczyk [8], O. O. Levytska [10], O. Radchenko [15], and A. Jakubowski [6]. These studies indicate that labor migration from Ukraine to Poland is a major factor in demographic shifts within border territories. On the one hand, it increases the income levels of migrants and their families, positively impacting consumer demand in their home regions. On the other hand, the mass outflow of labor resources from Ukraine leads to workforce shortages, slowing down local business development and reducing innovation activity.

A significant part of the scientific discourse is dedicated to the impact of the COVID-19 pandemic and the war in Ukraine on socio-economic processes in border regions. Studies by A. I. Gordiichuk [4], P. Kaczmarczyk [7], and M. Więckowski [21] emphasize that these events have acted as catalysts for new socio-economic challenges, including the increase in refugees in Poland, changes in employment structures, and the need for labor market adaptation to new realities. The authors highlight that Poland's migration integration policy has undergone significant changes compared to previous years, creating new economic conditions in its border voivodeships.

Regarding institutional factors of transformation, significant attention in academic literature is given to the role of state policies and regional development programs. Studies by M. Działuły [2], M. Mołęda-Zdziech [12], R. Sodoma [18], and E. A. Syromolot [20] analyze mechanisms of state support for border areas. These works indicate that Ukraine's integration strategies prioritize cooperation within Euroregions but do not sufficiently address the needs of local communities in forming economically self-sufficient clusters.

Summarizing the findings in this field, it can be concluded that socio-economic transformations in the border regions of Ukraine and Poland are a multifaceted process influenced by European integration trends and cross-border cooperation. However, there is a need for further research to provide a comprehensive assessment of recent crises and to develop effective mechanisms for adapting these regions to new conditions.

3. Methodology

The research methodology is based on a systematic approach that combines quantitative and qualitative methods of analysis. This approach enables the assessment of changes in regional economies, employment levels, migration trends, and the effectiveness of cross-border cooperation. The primary sources of information for this study include official statistical data, reports from international organizations, analytical reports, and academic publications.

The study employs statistical analysis to evaluate trends in macroeconomic indicators, employment levels, migration flows, and wage dynamics. This method also facilitates a comparative analysis of data from 2019 to 2024 to identify structural changes in the border regions' economies of Ukraine and Poland.

A comparative analysis was used to assess Ukrainian and Polish regions based on key socio-economic parameters. Specifically, it evaluates how European financial resources contribute to infrastructure development and entrepreneurship.

Content analysis was applied to examine regional development strategies, employment policies, and measures aimed at enhancing the competitiveness of border areas. This involved reviewing analytical reports from independent research centers and international organizations.

The primary limitations of this study include insufficient up-to-date statistical data in certain areas, particularly regarding the impact of the war on migration processes in 2023–2024. Additionally, the comparative analysis of regions is constrained by differences in the economic and administrative systems of Ukraine and Poland.

To increase the analytical rigor of the study, we applied linear regression to quantitatively assess the relationship between labor migration levels, average wage dynamics, and EU funding volumes. The statistical analysis was conducted based on panel data for 2019–2024 using the Excel software environment.

Overall, the application of these methods has provided a comprehensive picture of socio-economic transformations in the border regions of Ukraine and Poland, identified key challenges, and outlined prospects for further development within the framework of European integration.

4. Results

The border regions of Ukraine and Poland represent a unique economic space where national and international economic processes intersect. Assessing socio-economic transformations in these regions enables the identification of development patterns and key factors that influence integration efficiency, labor mobility, and local market dynamics. Without understanding these changes, it is impossible to design effective economic policies that promote sustainable regional growth and harmonize living standards on both sides of the border.

A thorough analysis of economic convergence between Polish and Ukrainian regions is essential to evaluate the impact of European integration and EU structural funds. Poland receives significant financial support for the development of its border territories, whereas Ukraine, due to limited access to similar resources, experiences slower economic growth. Identifying the scale of disparities and the factors shaping them helps adapt cross-border cooperation policies to minimize the negative effects of economic asymmetry. In this context, special attention should be given to assessing social changes, as these regions undergo continuous demographic transformations driven by labor migration, shifts in employment structures, and the adaptation of migrants within Polish society [6]. The large-scale migration of Ukrainians to Poland affects not only local labor markets but also long-term economic dynamics, creating both opportunities and risks for each country's economy.

Furthermore, global crises, including the COVID-19 pandemic and Russia's military aggression against Ukraine, have radically altered the economic landscape of border regions, reinforcing their role in logistics chains [7]. Without a systematic analysis of these changes, it is impossible to effectively forecast future development scenarios. Such analysis is also necessary to formulate regional management strategies that account for both macroeconomic trends and local challenges. Therefore, the assessment of socio-economic transformations is currently a necessary foundation for developing strategies that can ensure the stable development of border regions under volatile economic conditions.

The dynamics of the average monthly wage are a key indicator of socio-economic transformations, reflecting the level of economic development, labor productivity, and market competitiveness in the border regions of Ukraine and Poland. [7]. Analyzing these data helps assess not only income disparities but also the scale of economic asymmetry between the two countries. The study of wage trends is also essential for understanding migration flows, as a growing income gap stimulates labor movement toward more developed economies (Figure 1).

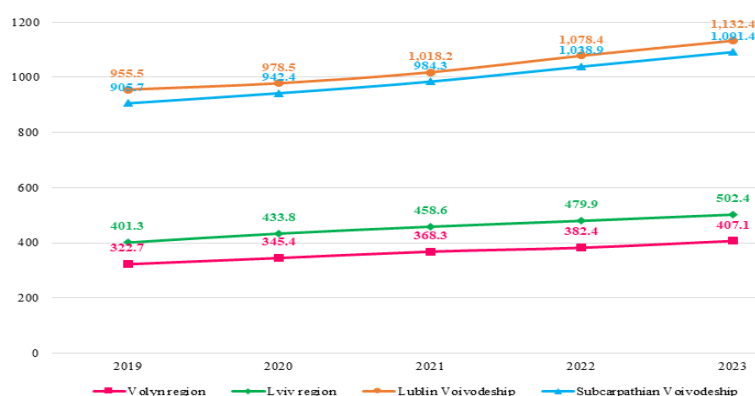


Fig. 1: Average Monthly Wages in the Border Regions of Ukraine and Poland (2019–2023), EUR.

Source: [11]; [19].

The graph illustrates a persistent income gap between the Polish and Ukrainian border regions throughout the analyzed period. While Ukrainian border regions experienced gradual wage growth, the pace of this increase was significantly slower compared to Polish regions. Specifically, in the Volyn Region, the average wage rose from €322.7 in 2019 to €407.1 in 2023, reflecting a 26.2% increase. In Lviv Region, the trend was similar, with wages increasing from €401.3 to €502.4, a 25.2% rise. In contrast, Polish border voivodeships demonstrated a more pronounced wage increase. In Lublin Voivodeship, the average income grew from €955.5 in 2019 to €1132.4 in 2023 (+18.5%), while in Subcarpathian Voivodeship, it rose from €905.7 to €1081.4 (+20.5%).

Despite absolute wage growth in all regions, the income ratio between Ukraine and Poland remained largely unchanged. In 2019, the average wage in Polish regions was approximately 2.8 times higher than in the Volyn Region and 2.3 times higher than in the Lviv Region. By 2023, these ratios had remained almost constant, indicating persistent economic disparity and the limited effectiveness of economic convergence mechanisms.

Another key finding is that wage growth in Poland has been stable and comparable across both voivodeships, suggesting a nationwide economic policy focused on income growth, supported by EU instruments. In Ukraine, particularly in the Volyn Region, wage increases have been less consistent, possibly reflecting economic policy instability and external factors, such as the impact of military conflict.

Thus, the analysis confirms that socio-economic disparities between the border regions of Ukraine and Poland persist, and the economic growth rate in Ukrainian regions remains insufficient to rapidly close this gap. In the long term, these trends may sustain high levels of labor migration from Ukraine to Poland, affecting labor markets and demographic structures in both countries.

Migration processes in the border regions of Ukraine and Poland serve as a key indicator of socio-economic dynamics, reflecting not only living standards and economic prospects but also structural shifts in regional development [4]. The number of labor migrants is an important measure of population mobility, helping to assess income disparities, labor market stability, and institutional conditions in each country. Analyzing the dynamics of this indicator helps identify the main trends shaping migration flows and assess the long-term implications for regional development (Figure 2).

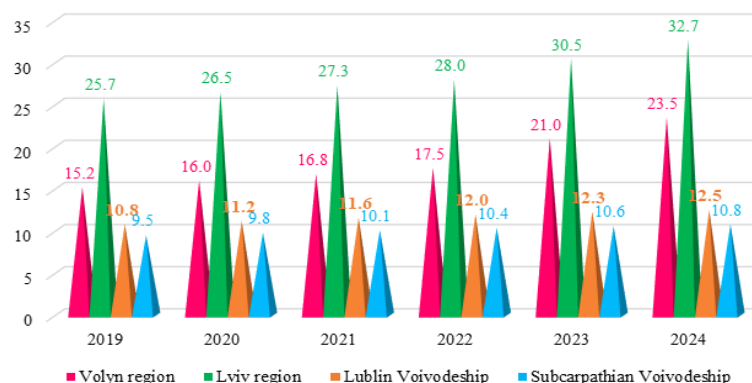


Fig. 2: Number of Labor Migrants from the Border Regions of Ukraine and Poland in 2019-2024, Thousand People.

Source: [11]; [19].

Figure 2 illustrates a key trend in labor migration dynamics: a steady increase in the number of labor migrants from Ukrainian regions. In contrast, migration levels in Polish regions have remained relatively stable, with only slight increases. In the Volyn Region, the number of labor migrants rose from 15.2 thousand in 2019 to 23.5 thousand in 2024, representing a 54.6% increase. In Lviv Region, the trend is even more pronounced, with migration growing from 25.7 thousand to 32.7 thousand over the same period (+27.2%). This trend can be attributed to internal factors such as economic instability, the impact of war, and rising unemployment, as well as external factors including the attractiveness of the Polish labor market and stable employment conditions.

In contrast to Ukrainian regions, Polish border voivodeships show relatively modest increases in labor migration. In Lublin Voivodeship, the number of migrants grew from 10.8 thousand to 12.5 thousand during the analyzed period (+15.7%), while in Subcarpathian Voivodeship, it increased from 9.5 thousand to 10.8 thousand (+13.7%). This indicates that Poland's migration dynamics are stable, as employment levels remain high and internal population mobility stays within predictable ranges.

Another crucial factor is the sharp rise in the number of labor migrants from Ukrainian regions after 2022, coinciding with the onset of the full-scale war in Ukraine. This confirms that military conflict has acted as a catalyst for intensified labor migration, particularly among individuals who lost stable sources of income.

The significant increase in labor migration from Volyn and Lviv Regions highlights the deterioration of Ukraine's economic conditions. It also demonstrates the strong attractiveness of the Polish labor market. Meanwhile, Polish regions show relative stability, suggesting regulated internal mobility and no significant structural labor market shifts. This trend underscores the need to develop effective mechanisms for regulating migration flows and supporting Ukrainian regions to reduce economic dependence on external labor markets.

A key factor in economic stability and development is the employment structure in the border regions of Ukraine and Poland. Analyzing the distribution of labor across key economic sectors shows the degree of diversification and the labor market's resilience to external shocks [18]. Additionally, the unemployment rate serves as a crucial indicator of the effectiveness of state policies in employment and investment (Figure 3).

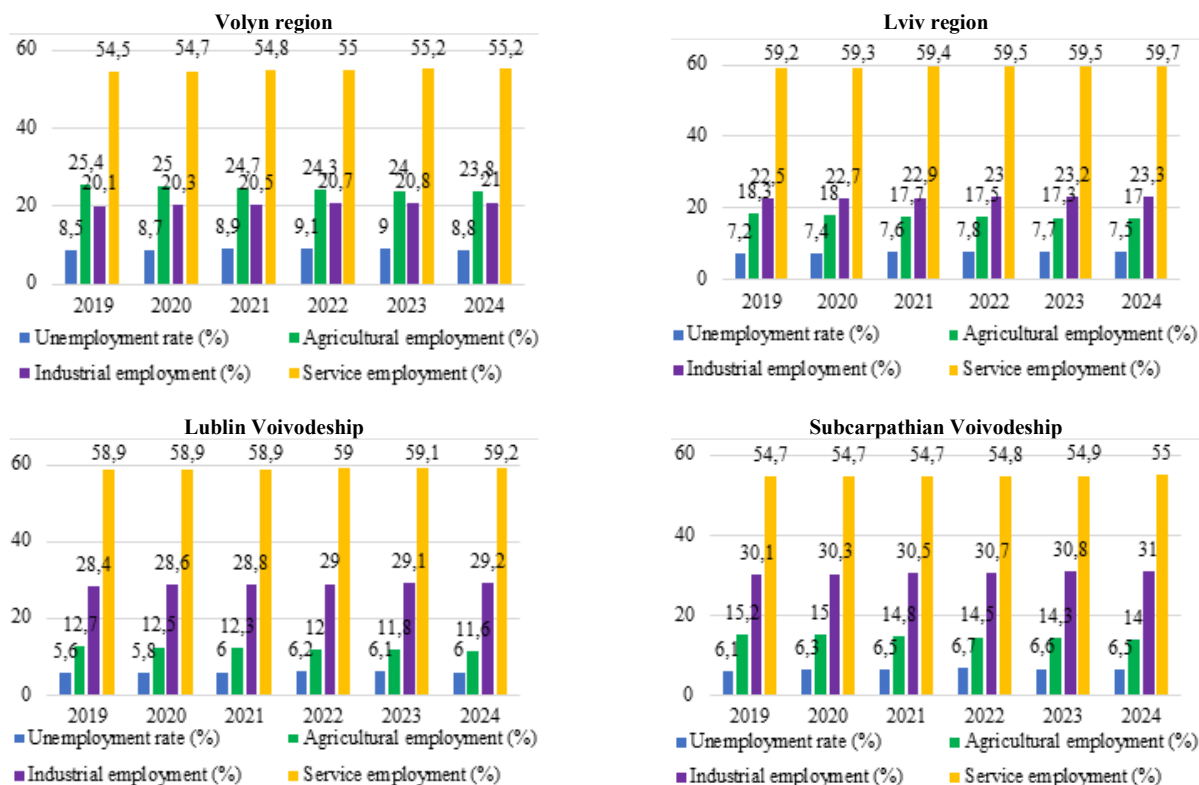


Fig. 3: Employment Structure in the Border Regions of Ukraine and Poland in 2019-2024.

Source: [11]; [19].

The analysis reveals gradual shifts in the sectoral employment structure, alongside stable yet differing unemployment levels between the two countries. In Ukrainian regions, unemployment remains higher than in Polish regions, though it has shown a slight decline in 2023–2024. In the Volyn Region, the unemployment rate decreased from 9.1% in 2022 to 8.8% in 2024, while in the Lviv Region, it fell from 7.8% to 7.5% over the same period. This may indicate a partial labor market recovery following economic crises, including the war and financial instability. In contrast, in Polish regions, unemployment has remained consistently lower (5.6–6.7%), reflecting a highly efficient labor market and strong institutional support for employment.

Regarding sectoral distribution, the share of employment in agriculture has gradually declined in both the Volyn and Lviv Regions. In the Volyn Region, this figure decreased from 25.4% in 2019 to 23.8% in 2024, while in the Lviv Region, it fell from 18.3% to 17%, indicating gradual urbanization and workforce transition to other economic sectors. The industrial sector in these regions has experienced a slight increase in employment, suggesting a gradual modernization of the economy. In Lviv Region, industrial employment grew from 22.5% to 23.3%, while in Volyn Region, it increased from 20.1% to 21%. The most dynamic growth, however, is observed in the services sector, which has become the dominant area of employment. In Lviv Region, employment in services increased from 59.2% to 59.7%, while in Volyn Region, it rose from 54.5% to 55.2%.

Poland exhibits similar trends but at a more advanced level of economic development. The share of employment in agriculture has also declined, particularly in Lublin Voivodeship (from 12.7% to 11.6%) and Subcarpathian Voivodeship (from 15.2% to 14%). Meanwhile, industry remains a stable pillar of the labor market: in Lublin Voivodeship, industrial employment increased from 28.4% to 29.2%, while in Subcarpathian Voivodeship, it grew from 30.1% to 31%. The services sector dominates the economy in all Polish regions, particularly in Lublin (59.2%) and Subcarpathian (55%) Voivodeships, reflecting a high level of economic development and stable demand for skilled labor in trade, finance, education, and healthcare.

The analysis of employment structure dynamics highlights a gradual economic shift in border regions from agriculture to industry and services. However, Polish regions demonstrate greater economic stability and diversification, while Ukrainian regions remain in a transitional phase [12]. Differences in unemployment rates and the pace of change indicate the need for more active government policies to support employment, attract investment in new industries, and improve conditions for service sector growth.

European funding programs play a key role in the socio-economic development of border regions in Ukraine and Poland, supporting infrastructure, education, and business initiatives. The volume of grants and loans, the number of implemented projects, and the efficiency of fund utilization are indicators of regional engagement in European integration processes and cross-border cooperation.

Analyzing these data helps assess trends in these processes and compare financial support levels between Ukrainian and Polish regions. (Table 1).

Table 1: Volume of European Programs and Project Funding for Socio-Economic Development in the Border Regions of Ukraine and Poland (2019–2024)

Indicator	Volyn region		Lviv region		Lublin Voivodeship		Subcarpathian Voivodeship	
	2019	2024	2019	2024	2019	2024	2019	2024
Volumes of grant financing from the EU (million euros)	5.2	7.2	10.4	14.5	18.7	23	15.9	20
Volumes of loan financing from the EU (million euros)	12.5	17.3	28.5	37.2	45.3	57.2	34.2	45.5
Number of implemented cross-border cooperation projects	4	9	10	20	8	18	6	14
Involvement of Ukrainian regions in Interreg programs (number of projects)	1	6	3	10	2	8	2	7
Efficiency of use of funds (%)	82.5	86	85	89	87.5	91	86.8	90

Source: [3].

The data indicate a significant increase in EU financial support across all analyzed regions. Ukrainian border regions, Volyn and Lviv, have demonstrated substantial growth in funding acquisition; however, their funding volumes remain considerably lower compared to Polish regions. Grant funding over the five years in Volyn Region increased from €5.2 million to €7.2 million (+38.5%), while in Lviv Region, it rose from €10.4 million to €14.5 million (+39.4%). In Lublin and Subcarpathian Voivodeships, these figures are significantly higher, with growth rates of 23% and 25.8%, respectively, and absolute funding volumes reaching €23 million and €20 million in 2024. This highlights the substantial advantage of Polish regions in accessing EU funds. It can be attributed to Poland's longer EU membership and stronger administrative capacity in fund utilization.

Loan financing also shows a positive trend in all regions. In Volyn Region, loan funding increased by 38.4%, in Lviv Region by 30.5%, in Lublin Voivodeship by 26.4%, and in Subcarpathian Voivodeship by 33%. This confirms overall strengthening of EU investment support, although the share of loan financing remains higher in Polish regions, indicating greater trust in Poland's economic stability. The number of implemented cross-border projects has also increased across all border territories.

Regarding Ukrainian regions' participation in the Interreg programs, a significant increase in project numbers has been observed: from 1 to 6 in the Volyn Region and from 3 to 10 in the Lviv Region. This reflects greater engagement of Ukrainian regions in European cooperation programs, potentially facilitating further integration into the European economic space. The efficiency of fund utilization has improved in all regions, indicating enhanced financial administration mechanisms. In 2024, this indicator exceeded 90% in Polish regions, confirming the effectiveness of their institutional system.

It should be noted that funding from the European Union, which comes to border regions in the form of grants and loans, is reflected in public financial accounting systems by the principles of transparency, accountability, and harmonization with European standards. Additionally, in Polish voivodeships and some Ukrainian regions (Lviv and Volyn), there is an increase in the number of cross-border projects that require the preparation of consolidated financial statements according to international standards. IPSAS or adapted elements of IFRS for the public sector are usually used for this (Nobes & Parker, 2020). A sufficiently high efficiency in the use of funds under Interreg projects demonstrates the administrative capacity of local governments to maintain reporting. This allows for proper control over the use of European financial resources and ensures the audit of implemented projects by donor structures.

Thus, the results confirm growing EU financial support in border regions, particularly in Poland, where access to funds is more favorable. Ukrainian regions are making progress in securing financing and participating in cooperation programs, yet their opportunities remain limited compared to their Polish counterparts. This highlights the need to enhance administrative capacity in Ukrainian regions for managing European financial resources and expanding access to EU funding mechanisms [14].

One of the key factors transforming socio-economic development in the border regions has been the impact of the war in Ukraine on Poland's economy [22]. A major aspect of this impact has been the increased burden on the labor market. The influx of Ukrainian refugees into Poland has significantly altered the employment structure, creating additional challenges for public policy and increasing financial pressure on social programs (Table 2).

Table 2: Growth in Labor Market Pressure in Poland Due to the War in Ukraine

Indicator	2022	2023	2024
Number of officially employed Ukrainian refugees (thousands of people)	321.5	418.7	445.2
Increase in applications for work permits (% compared to the previous year)	45.2	28.6	18.3
Number of registered Ukrainian refugees in social programs (thousands of people)	451	501.4	534.9
Increase in Polish budget expenditures on social support for refugees (million euros)	552.3	672.8	727.5

Source: [19].

The data in the table demonstrate a gradual yet significant increase in the number of officially employed Ukrainian refugees in Poland. In 2022, this figure stood at 321.5 thousand people, rising to 418.7 thousand in 2023 and 445.2 thousand in 2024. This indicates the stable integration of Ukrainians into the Polish labor market. On the one hand, this contributes to the country's economic development. On the other hand, it necessitates adjustments in employment and social protection policies. At the same time, work permit applications show a declining trend. While in 2022, this indicator increased by 45.2% compared to the previous year, in 2023, the growth rate slowed to 28.6%, and in 2024, it further decreased to 18.3%. This may indicate a gradual saturation of the labor market, the adaptation of most Ukrainian refugees, and a slowdown in the arrival of new migrants.

Regarding the number of registered Ukrainian refugees in social programs, it has also shown consistent growth. In 2022, this figure was 451 thousand people, rising to 501.4 thousand in 2023 and 534.9 thousand in 2024. This suggests that a significant portion of Ukrainian migrants continues to rely on state support, creating additional pressure on Poland's budget. The increase in government expenditures on refugee social assistance is a direct consequence of these processes. In 2022, spending amounted to €552.3 million, rising to €672.8 million in 2023 and €727.5 million in 2024. This trend may indicate the need to revise social policies, focusing not only on direct financial aid but also on better economic integration of refugees into the workforce.

Using linear regression, we assessed how average wages and EU funding influenced labor migration in Ukraine's border regions during 2019–2023.

The model is specified as follows:

$$M_{it} = \beta_0 + \beta_1 \times W_{it} + \beta_2 \times EUfund_i + \varepsilon_{it}$$

Where M_{it} – the number of labor migrants (in thousands) from region i in year t ;

W_{it} – average monthly wage (in EUR) in region i in year t ;

$EUfund_i$ – total EU funding (grants + loans, in million EUR) for region i ;

ε_{it} – error term.

The estimated regression equation is:

$$M = 5.79 + 0.047 \times W_{it} + 0.33 \times EUfund_i$$

With the following coefficients (Table 3).

Table 3: Regression Coefficients for the Model Explaining Labor Migration Based on Average Wages and EU Funding in Volyn and Lviv Regions (2019–2023)

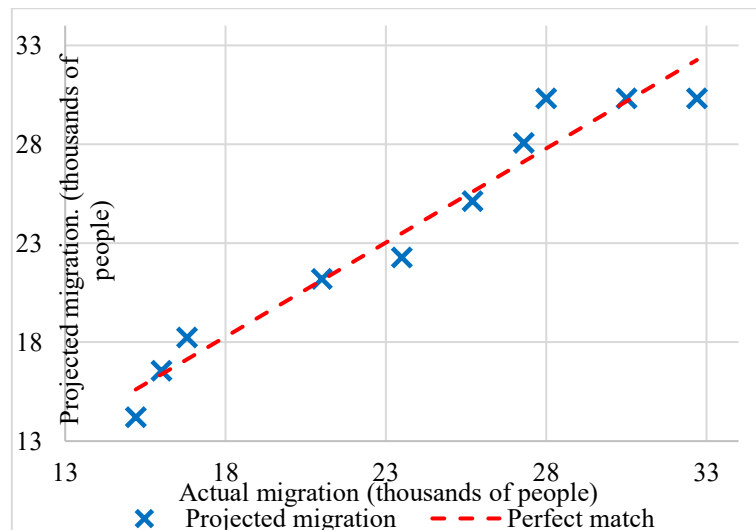
Variable	Coefficient	Std. Error	t	Statistic	p-Value
Intercept	5.79	1.59		3.65	0.007
Wages	0.047	0.006		7.85	0.000
EU Funding	0.033	0.013		2.52	0.037

Model quality indicators:

Number of observations – 10; R^2 – 0.985; Adjusted R^2 – 0.980; F-statistic: 123.97 ($p < 0.0001$).

The results confirm the strong economic sensitivity of migration to both labor market conditions and external financial incentives.

The model highlights the importance of coordinated wage, fiscal, and regional development policies in managing migration dynamics in EU border regions (Figure 4).

**Fig. 4:** Linear Regression Model of the Dependence of Labor Migration Volumes on Average Wages and EU Funding in the Border Regions of Ukraine.

Source: calculated by the author.

The constructed model revealed statistically significant relationships ($p < 0.05$) between the number of labor migrants, the average wage, and the amount of European funds attracted. In particular, an increase in wages by 1 euro is associated with an increase in migration by 47 people, while additional funding of 1 million euros corresponds to an increase in migration flows by approximately 33 people. This confirms the hypothesis that population mobility is sensitive to economic incentives at both the micro and macro levels. The results indicate the interrelationship between structural transformations in the labor market and the effectiveness of financial support from the EU, emphasizing the need for coordination of social and economic policies in the cross-border space.

Thus, it can be concluded that the war in Ukraine has significantly impacted the Polish labor market, creating both challenges and opportunities for the country's economic development. A positive aspect is the gradual employment of refugees, which reduces their dependence on social programs. However, the slowdown in the growth of work permits suggests a certain limit to the labor market's absorption capacity. In the future, Polish authorities will need to find balanced solutions to integrate Ukrainian migrants into the employment system without placing excessive strain on the state budget.

5. Discussion

The findings indicate that the socio-economic transformations in the border regions of Ukraine and Poland are not an isolated phenomenon. They are shaped by the complex interplay between the integrative impulses of the European Union and the structural configuration of regional labor markets. The significant disparities in wage dynamics, EU funding volumes, employment structures, and migration intensity reveal the asymmetric nature of development on both sides of the border. This highlights the need for deeper regional convergence as a prerequisite for integration stability.

The effectiveness of cross-border cooperation programs under conditions of institutional inequality remains open to discussion. Polish voivodeships, benefiting from deeper integration into the European economic space, demonstrate higher performance in attracting and efficiently utilizing financial resources. In contrast, Ukrainian regions, despite the growing number of implemented projects, remain constrained in their capacity to fully adapt to the EU's regulatory framework and operate within the institutional cooperation domain. This underscores the necessity of enhancing administrative competence and ensuring adequate human resource capacity within regional development policy.

The analysis of migration processes demonstrates that the intensive mobility of the Ukrainian population to Poland entails not only economic but also demographic consequences, reinforcing structural distortions in local labor markets, particularly in the agricultural sector and among small enterprises. The increasing number of officially employed migrants in Poland is accompanied by a slowdown in the issuance of work permits, which may signal a partial saturation of the labor market or a transformation in employment forms. Simultaneously, the growing public expenditure on refugee social support highlights the need for structural reform of social integration policy, with an emphasis on the economic self-sufficiency of migrants. The intensive growth of labor migration from Ukraine to Poland has significant tax implications for both sides. On the one hand, some Ukrainian citizens are officially employed in Poland, which results in the payment of personal income taxes to the Polish budget and contributions to the social insurance system. This generates additional fiscal revenues for the host country while reducing the tax base in Ukrainian border regions. On the other hand, Ukraine faces budget losses of potential income from personal taxation and the need to compensate for social expenses by reducing contributions to social funds. It should be noted that in Ukraine, the Pension Fund operates based on solidarity, with a significant share of state co-financing of its budget deficit. Therefore, tax asymmetry between countries creates structural challenges in the field of interstate taxation, which requires coordination on issues of double taxation and considering transfers in the context of the financial sustainability of regional budgets.

From the perspective of employment structure, the observed decline in the share of agricultural employment in both countries can be interpreted as an indicator of the modernization of border region economies. However, in Poland, these shifts are more harmonized, whereas in Ukraine, they remain fragmented. This points to the need for greater governmental support for industrialization and the development of the service sector, particularly in Volyn and Lviv regions, where unemployment rates remain relatively high.

To increase regional resilience and socio-economic integration in the Ukrainian-Polish border regions, two main strategic directions are proposed. First, the administrative efficiency of Ukraine in the effective use of EU financial resources has been significantly improved. This requires the digitalization of the grant monitoring system and the implementation of procedures for harmonization with EU policy standards based on the formation of specialized regional units for project assessment and reporting. Second, fiscal policy instruments should be used to stimulate the integration of migrants returning to Ukraine and refugees from the occupied regions of Russia. At the same time, tax incentives for employers who find displaced persons, in the form of exemption from personal income tax for repatriated labor migrants during the first year of reintegration, contribute to the economic growth of regions and reduce the risks of informal employment. Together with the above measures, institutional barriers can be removed, and the socio-economic impact of cross-border cooperation programs can be maximized.

Summarizing the discussion, it is essential to emphasize that a forward-looking regional policy under European integration conditions should be based not only on financial support mechanisms but also on a comprehensive approach to human capital formation and legal harmonization of cross-border cooperation procedures. Such an approach will help mitigate transformational risks and activate the internal potential of the regions through their sustainable adaptation to external environmental changes.

6. Conclusion

Thus, it can be concluded that socio-economic transformations in the border regions of Ukraine and Poland reflect a complex interplay between macroeconomic factors, regional development, and migration processes. Ukraine's economic integration with the EU is accompanied by both positive effects, such as expanded opportunities for cross-border cooperation, and challenges related to economic asymmetry and structural gaps between the two countries. Migration remains one of the key influencing factors, as it results from socio-economic disparities and partly compensates for them through remittances and redistribution of the workforce. At the same time, Poland continues to act as the main destination for Ukrainian workers, intensifying competition for employment and creating structural challenges for labor relations in Ukraine.

Regional disparities between Ukrainian and Polish territories are driven by differences in institutional development and access to financial resources. Polish regions receive substantial support from European funds, allowing them to develop infrastructure and improve living standards. In contrast, Ukrainian border regions have limited access to similar instruments, reducing their competitiveness. Labor market trends indicate a gradual decline in unemployment, which may be linked to increased entrepreneurial activity and the expansion of

employment opportunities, particularly in the services sector. However, the high level of labor migration highlights the need for effective mechanisms to support local businesses and create conditions that encourage workforce retention within the country. European funding programs play a crucial role in regional development, but their effectiveness depends on the institutional capacity of local authorities and the level of private sector involvement. The high utilization of European financial resources in Poland demonstrates its capacity to embed these instruments into regional development strategies. In contrast, Ukrainian regions should enhance their approaches to securing and effectively managing such investments. The overall development trend of border regions confirms the need for active state support and the adaptation of economic policies to the challenges of modern population mobility, global crises, and structural transformations. Achieving a balance between economic growth, social standards, and financial stability will be a defining factor for the future development of these regions within the broader process of alignment with EU practices.

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