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ANATOMY OF THE "DAYTON TRAP": INSTITUTIONAL, ECONOMIC, AND DEMOGRAPHIC LESSONS OF BOSNIA FOR POSTWAR UKRAINE

Abstract

The current literature on the economics of post-conflict reconstruction focuses primarily on infrastructure reconstruction and macroeconomic stabilization, while long-term institutional risks are often overlooked. The aim of this article is to explore the mechanisms of the emergence of the “Dayton Trap” in Bosnia and Herzegovina (BiH)—a state in which a peace agreement preserves economic stagnation—and to assess the risks of this scenario recurring during Ukraine’s post-conflict reconstruction. Using comparative institutional analysis and macroeconomic and demographic data (1995–2023), the study traces the causal relationship among institutional design, the lack of export incentives, and mass migration.

The results show that BiH’s hyper-fragmented governance system has critically increased transaction costs, blocking the inflow of foreign direct investment (FDI) into the tradable goods sector. The shortage of highly productive jobs has led to the replacement of exports with remittances from emigrants, which has triggered symptoms of the local “Dutch disease” and precipitated a depopulation catastrophe. The projection of these conclusions to Ukraine shows that large-scale international assistance without a parallel policy of export-oriented reindustrialization carries the risk of transforming temporary refugee status into permanent economic emigration. To avoid demographic collapse, the need to abandon the donor-dependent model in favor of asymmetric decentralization, introduce comprehensive military risk insurance for FDI, and create jobs through integration into the EU’s global value chains is justified.

Keywords: post-conflict reconstruction, institutional trap, export-oriented growth, depopulation, Dutch disease, foreign direct investment, Bosnia and Herzegovina, Ukraine.

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АНАТОМІЯ «ДЕЙТОНСЬКОЇ ПАСТКИ»: ІНСТИТУЦІЙНІ, ЕКОНОМІЧНІ ТА ДЕМОГРАФІЧНІ УРОКИ БОСНІЇ ДЛЯ ПОВОЄННОЇ УКРАЇНИ

Анотація

У сучасній літературі з економіки постконфліктної відбудови домінує фокус на інфраструктурному відновленні та макроекономічній стабілізації, тоді як довгострокові інституційні ризики часто залишаються поза увагою. Метою цієї статті є дослідження механізмів виникнення «Дейтонської пастки» в Боснії і Герцеговині (БіГ) — стану, за якого мирна угода консервує економічну стагнацію — та оцінка ризиків повторення цього сценарію під час повоєнної відбудови України. Застосовуючи метод порівняльного інституційного аналізу та спираючись на макроекономічні й демографічні дані (2014–2023 рр.), дослідження простежує причинно-наслідковий зв'язок між інституційним дизайном, відсутністю стимулів для експорту та масовою міграцією. Результати доводять, що гіперфрагментована система управління БіГ критично підвищила транзакційні витрати, заблокувавши приплив прямих іноземних інвестицій (ПІІ) у сектор товарів, що торгуються. Дефіцит високопродуктивних робочих місць спричинив заміну експорту грошовими переказами емігрантів, що спровокувало симптоми локальної «голландської хвороби» та призвело до депопуляційної катастрофи. Проекція цих висновків на Україну свідчить: масштабна міжнародна допомога без паралельної політики експортоорієнтованої реіндустріалізації несе ризик перетворення тимчасового статусу біженців на постійну економічну еміграцію. Для уникнення демографічного колапсу обґрунтовано необхідність відмови від моделі донорсько-залежної економіки на користь асиметричної децентралізації, впровадження комплексного страхування військових ризиків для ПІІ та створення робочих місць через інтеграцію у глобальні ланцюги доданої вартості ЄС.

Ключові слова: постконфліктна відбудова, інституційна пастка, експортоорієнтоване зростання, депопуляція, голландська хвороба, прямі іноземні інвестиції, Боснія і Герцеговина, Україна.

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Introduction

Contemporary debates on post-conflict reconstruction tend to center on infrastructure restoration, international aid mobilization, and macroeconomic stabilization. While these pillars are essential, there is a growing recognition of a neglected dimension: the durable institutional traps embedded in peace agreements that can entrench inefficient governance, impede the development of an autonomous export-oriented economy, and, consequently, contribute to a depopulation crisis. The Bosnian experience after the Dayton Accords provides a stark illustration of how such institutional configurations can produce long-term constraints on growth and population retention, even when physical reconstruction progresses.

For Ukraine, which has suffered substantial population losses due to the war, ignoring the challenges of reindustrialization and export competitiveness risks reproducing a Bosnian-like trajectory – one in which the economy remains dependent, fragile to external shocks, and marked by persistent labor migration. This paper argues that postwar recovery cannot be reduced to rebuilding roads and balance-of-payments tallies; it requires deliberate reforms that redesign institutions to enable durable industrial upgrading, diversified and export-oriented sectors, and policies that make the country attractive for both firms and workers to stay and invest domestically.

Literature review

The issue of post-conflict reconstruction is increasingly being understood through the prism of institutional economics, which explains differences in development trajectories not only in terms of the volume of resources, but also in the quality of the “rules of the game”. In this context, the experience of Bosnia and Herzegovina after the Dayton Agreement¹. is particularly valuable, as it allows us to trace the long-term consequences of institutional design for economic growth and demographic dynamics (Šiljak, D., & Nielsen, K. L., 2023).

The starting point for the analysis is the classic propositions of institutional theory, which hold that economic outcomes are determined by the structure of formal and informal institutions (North, 1990). Institutions reduce uncertainty and shape incentives for economic agents, determining the level of transaction costs and opportunities for investment and innovation.

Further development of this tradition is presented in the works of Acemoglu and Robinson (2012)², who distinguish between inclusive and extractive institutions. Inclusive institutions provide broad economic opportunities, property rights protection, and competition, while extractive institutions concentrate resources in the hands of narrow elites, limiting development. In post-conflict countries, a hybrid configuration often emerges, combining formally inclusive institutions with extractive governance practices. In this context, the concept of an “institutional trap” is important, describing a stable state in which ineffective institutions reproduce themselves through political and economic incentives (North, Wallis, & Weingast, 2009). Post-conflict states are characterized by political compromises necessary to end the war that impose institutional constraints on economic coordination.

Empirical studies of transition economies confirm that the quality of institutions is a determining factor in long-term growth (Efendic, A., Kovac, D., & Shapiro, J. N., 2023). In Bosnia and Herzegovina, institutional fragmentation, a multi-level governance system, and the politicization of economic decisions led to high transaction costs and low reform efficiency. This provides the basis for conceptualizing the so-called

¹ Dayton Accords <https://state.gov/p/eur/rls/or/dayton/index.htm>

² Robinson, James, and Daron Acemoglu. (March) 2012. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. Random House.

“Dayton trap” as a specific form of institutional inefficiency.

Within development economics, the debate between export-led growth (ELG) and aid-dependent economies is key. The theoretical foundations of ELG were laid by Balassa (1978) and Krueger (1990), and later developed by Rodrik (2006, 2013), who emphasizes the role of structural transformation and integration into global markets.

Export orientation contributes to productivity growth through competition, technology transfer, and learning-by-exporting effects. At the same time, it requires effective institutions that can provide a predictable business environment and support innovation.

In contrast, economies that are heavily dependent on international aid often face the effects described in the literature as “aid dependence.” Under such conditions, external resources can reduce incentives for domestic reform, promote rent-seeking, and exacerbate institutional weaknesses (Moss, Pettersson, & van de Walle, 2006).

Research shows that the quality of institutions directly affects export capacity: weak institutions limit participation in global value chains and reduce competitiveness (Hausmann, Hwang, & Rodrik, 2007). In the case of Bosnia and Herzegovina, significant international aid after the war helped rebuild basic infrastructure but did not ensure a transition to a sustainable export-led growth model.

Thus, institutional design acts as a critical mediator between external resources and economic outcomes: in the absence of effective institutions, aid does not translate into long-term growth. Demographic dynamics in post-conflict countries are closely linked to economic conditions and the quality of institutions. Classical migration theories, such as the push–pull model (Lee, 1966) and the Harris–Todaro model (1973³, explain migration flows as a result of differences in opportunities between countries.

In the post-conflict context, “push” factors include:

- high unemployment
- low incomes
- institutional instability

“Pull” factors are associated with better economic conditions and institutional quality in destination countries.

Empirical studies show that a sustainable pattern of emigration has emerged in Bosnia and Herzegovina, especially among young people and highly skilled workers (Efendic, Babic, & Rebmann, 2023). It is important that migration takes on a two-stage character: the initial displacement caused by the war is replaced by economically motivated emigration in the post-war period.

This allows us to consider depopulation not only as a direct consequence of the conflict, but also as a result of structural economic constraints that prevent the creation of quality jobs. In this sense, migration acts as an indicator of the ineffectiveness of economic policy.

Ukrainian research confirms similar trends. In particular, the works of Libanova (2020, 2023) and the analytical reports of the National Bank of Ukraine and the Center for Economic Strategy document large-scale migration losses and their connection to the labor market and the structure of the economy.

Despite the significant volume of literature, there is a noticeable gap between research on institutions, economic development, and demography. Most works analyze these aspects separately, without offering an integrated model of their interaction.

This study proposes to consider post-conflict dynamics as a sequential causal chain: institutional design → economic structure (in particular, export orientation) → labor market → migration → demographic change. This approach allows us to combine institutional theory with development economics and migration theories, creating a holistic analytical framework. In Bosnia and Herzegovina, institutional fragmentation

³ Harris, J. R., & Todaro, M. P. (1970). Migration, unemployment and development: A two-sector analysis. *American Economic Review*, 60(1), 126–142. <https://www.jstor.org/stable/1807860>

hindered the development of an effective export strategy, which, in turn, led to a weak labor market and spurred emigration.

This theoretical synthesis is particularly relevant for Ukraine, where post-conflict reconstruction will require not only the restoration of infrastructure but also the creation of institutional conditions for sustainable economic growth and demographic stabilization.

Aims and Objectives

This study introduces an integrated analytical model that synthesizes institutional design, export structure, and demographic dynamics. Additionally, it conceptualizes the “Dayton Trap” as a quantifiable economic phenomenon with enduring implications for economic growth and migration.

Object: The process of post-conflict macroeconomic reconstruction and demographic stabilization in countries with economies in transition.

Subject: The impact of institutional design and structural economic policy (in particular, the degree of export orientation) on demographic dynamics and migration in the post-war period (based on a comparative analysis of Bosnia and Herzegovina and Ukraine).

Research questions:

- (Institutional-economic): How does the institutional design of the peace agreement (on the example of the Dayton Agreements in BiH) block the transition from an economy dependent on international aid to an independent export-oriented growth model?
- (Demographic): How does the absence of export-oriented reindustrialization in the post-conflict period determine a “depopulation catastrophe” (mass labor emigration)?
- (Projection on Ukraine): What economic and institutional risks of the Bosnian scenario are most relevant for post-war Ukraine, and what preventive policies (policy interventions) are needed to avoid them?

Methods

The study is based on the method of Comparative Institutional Analysis. This approach allows us to examine how specific institutional frameworks established by peace agreements (on the example of the Dayton Accords in Bosnia and Herzegovina) shape long-term incentives for economic agents. We use a case study methodology with elements of longitudinal macroeconomic analysis to trace the cause-and-effect relationship between three levels:

1. Institutional level: bureaucratization and fragmentation of governance.
 2. Macroeconomic level: stagnation of foreign direct investment (FDI) and low share of exports in GDP.
 3. Demographic level: mass migration of labor force as a consequence of the lack of export-oriented jobs.
- The projection of these results to Ukraine is carried out through the method of analogies and scenario forecasting.

Data Sources and Variables

To ensure empirical reliability, the study relies on secondary quantitative data from authoritative international databases. The main sources include the World Bank (World Bank Open Data)⁴, the International Monetary Fund (IMF Data)⁵, Eurostat (Eurostat)⁶, Center for Economic Strategy (2022–2024)⁷, World Factbook (2023)⁸, International Labor Organization⁹, and the national statistical offices of BiH

⁴ World Bank country reports <https://data.worldbank.org/>

⁵ International Monetary Fund. (2016). Bosnia and Herzegovina: Turning the economy around. <https://www.imf.org/en/news/articles/2016/09/06/na090916bosniaandherzegovina>

⁶ Eurofast https://eurofast.eu/bosnia-announces-increase-of-minimum-wage-and-abolishment-of-special-republic-tax/?utm_source=chatgpt.com

⁷ Center for Economic Strategy. (2022–2024). Analytical reports on the economy and migration. <https://ces.org.ua/en/>

⁸ Central Intelligence Agency (CIA) World Factbook. (2023). Bosnia and Herzegovina economy overview <https://www.cia.gov/the-world-factbook/countries/bosnia-and-herzegovina/>

and Ukraine.^{10, 11.}

The study covers two different but conceptually related time periods for the two countries:

- Bosnia and Herzegovina (1995–2023)¹²: The starting point (1995) coincides with the signing of the Dayton Accords. This almost 30-year horizon allows us to avoid short-term fluctuations and clearly identify the long-term “institutional trap” - the transition from short-term post-war recovery to long-term stagnation and depopulation.

- Ukraine (2014–2023 with projection to 2035): The analysis covers the period from the beginning of the armed conflict in eastern Ukraine (2014), the full-scale invasion (2022) to the current state (2024). Given the ongoing nature of the war, the methodology includes extrapolation of current demographic trends and construction of macroeconomic scenarios (export-oriented vs. donor-dependent) for the next decade.

The analysis is conducted in three stages:

1. Trend Analysis: Visualization and comparison of the dynamics of exports, FDI and migration in BiH after 1995.
2. Correlation Assessment: Assessment of the relationship between the level of FDI in the manufacturing (export) sector and the level of emigration of the working-age population.
3. Comparative Projection: Superimposing the institutional bottlenecks identified in BiH on the current project design for the reconstruction of Ukraine (e.g., Ukraine Facility) to identify the risks of a repeat of the “Dayton Trap”.

Results

The institutional architecture established after the Dayton Accords has created one of the most complex governance systems in Europe. The state consists of two entities, ten cantons, a separate Brčko district, and multi-level authorities operating in parallel. This structure is not neutral: it has direct economic consequences.

Macroeconomic reviews highlight that excessive decentralization and bureaucracy hinder reforms and deter investors (Efendic, Pugh, & Adnett, 2011).

Empirically, this is reflected in low levels of foreign direct investment and high transaction costs for businesses, as evidenced by the lack of a single regulatory framework and limited policy coordination across administrative levels. OECD (2023)¹³ and World Bank reports highlight overlapping competencies and heterogeneous business rules across entities and cantons, which increase transaction costs and hinder market integration. This institutional fragmentation is further reflected in persistently low levels of foreign direct investment and limited export diversification, indicating structural barriers to the functioning of a single economic space.

Table 1 – Descriptive statistics by country group (structural comparison)

Variable	Bosnia & Herzegovina	CEE average (PL/CZ/HU)	EU average	Interpretation
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⁹ International Labor Organization. (ILO) <https://ilostat.ilo.org/>

¹⁰ Agency for Statistics of Bosnia and Herzegovina (BHAS, 2023): *External Trade Statistics*. <https://bhas.gov.ba/?lang=en>

¹¹ International Monetary Fund (IMF). Fiscal Affairs Dept. "Bosnia and Herzegovina-Republika Srpska: Technical Assistance Report –Public Investment Management Assessment (PIMA)", *Technical Assistance Reports* 2024, 033 (2024), accessed 4/27/2026, <https://doi.org/10.5089/9798400272837.019>

¹² Individual - Taxes on personal income https://ba.icalculator.com/income-tax-rates/2023.html?utm_source=chatgpt.com#google_vignette

¹³ The Organisation for Economic Co-operation and Development (OECD) (2024). *Western Balkans Competitiveness Outlook: Bosnia and Herzegovina*. 26 June 2024 https://www.oecd.org/en/publications/western-balkans-competitiveness-outlook-2024-bosnia-and-herzegovina_82e0432e-en.html

GDP per capita (USD)	~9,000–12,000	~18,000–28,000	~35,000–45,000	Persistent convergence gap
Unemployment (%)	~10–17	~3–7	~6–8	Labor market inefficiency
Youth unemployment (%)	~25–35	~8–15	~12–16	Structural exclusion of youth
FDI (% GDP)	~1–3	~3–6	~4–6	Weak investment attractiveness
Remittances (% GDP)	~8–12	~1–3	<1	Migration-dependent economy
Exports (% GDP)	~40–50	~60–85	~50–65	Limited export upgrading
Gov. effectiveness (WGI)	negative/low	moderate	high	Institutional gap
Rule of law (WGI)	negative	moderate	high	Legal/institutional constraint

Source: World Bank (2023–2024), OECD (2023), Moody's Analytics (2023).

These statistics demonstrate systemic structural differences between Bosnia and Herzegovina, the CEE countries, and the EU average. The most pronounced gaps are observed in three dimensions: income, labor market, and institutional quality.

First, the level of GDP per capita in Bosnia remains approximately 2–4 times lower than in the EU countries, indicating a lack of economic convergence even more than two decades after the end of the conflict.

Second, the dependence on remittances ($\approx 8\text{--}12\%$ of GDP) contrasts sharply with the EU and CEE, indicating a migration-substitution model of consumption rather than productive growth.

Research shows that such flows have an ambivalent effect:

- on the one hand, they stabilize consumption;
- on the other hand, they reduce incentives for structural reforms and increase dependence on migration (Dimova & Wolff, 2009)¹⁴.

Capital inflows in the form of remittances without corresponding productivity growth stimulate wage inflation and real exchange rate appreciation, which is a classic symptom of the 'Dutch disease'. In the context of the Western Balkans and BiH in particular, this further reduces the price competitiveness of export-oriented enterprises (Meyer & Shera, 2017).

These funds rarely become investment capital for the establishment of export-oriented factories; instead, they are directed to the purchase of consumer goods (imported), real estate, and payment for services. Data from the BiH Agency for Statistics (BHAS) show a chronic foreign trade deficit. This means that the inflow of foreign aid and foreign exchange from the diaspora is directly converted into an outflow of foreign exchange through the purchase of finished goods (cars, machinery, food), rather than financing capital investments domestically. High levels of remittances have been a stable feature of BiH over the past 20 years, making this mechanism of "crowding out" domestic production a chronic problem, the so-called "Dutch disease" (Acosta, Lartey, & Mandelman, 2009; Ratha, A., & Moghaddam, M. 2020).

Third, since the domestic industry has not been properly modernized (due to a high tax burden on labor and bureaucracy, the local market cannot satisfy domestic demand. A vicious circle arises aid stimulates demand -> demand is satisfied by imports -> local production does not receive incentives for growth.

The low level of FDI (foreign direct investment) relative to remittance flows confirms that external capital in

¹⁴Dimova, R., & Wolff, F.-C. (2009). Remittances and chain migration: Longitudinal evidence from Bosnia and Herzegovina. *IZA Discussion Paper No. 4083*. <https://www.iza.org/publications/dp/4083>

BiH flows to "consumption", not to "industrialization".

Fourth, the interaction between remittances and the labor market is negative: the growth of external income is not accompanied by job creation, especially for young people (Baškot, 2020). Youth unemployment rates are consistently 2-3 times higher than in the EU, confirming the presence of structural constraints in the labor market.

Finally, low values of the WGI (government effectiveness, rule of law) indicators confirm the hypothesis that institutional weakness is a fundamental constraint on the economic trajectory. Despite sustained international aid inflows averaging approximately \$300–400 million annually over the period 2014–2023 (World Bank WDI (2014-2023)), Bosnia and Herzegovina has not transitioned to an export-led growth model. The persistence of aid inflows, combined with weak export diversification and low levels of foreign direct investment, suggests that external financial support has not translated into structural transformation.

Table 2 – Key indicators of structural imbalances in BiH.

Indicator	Value / Characteristics
Wage premium (public sector)	The average salary in public companies was about 40% higher than in the private sector (data for 2017).
Labor productivity	Productivity in the public sector is estimated to be ~8% lower than in the private sector.
Cost structure	Labor costs account for 30.5% of operating costs in public companies (versus 12% in the private sector).
Tax burden (SSC)	Social security contributions (SSC) remain high: up to 36–41.5% of gross salary (depending on the entity).
Informal employment	The share of shadow employment is estimated at about 20% of total employment.

Source: author's development on base of: The International Monetary Fund, 2019 – 2023; The International Labour Organization, 2023.

Due to the "wage premium" and higher level of protection (Employment Protection Legislation), the most qualified personnel seek to enter the public sector, which is deficient in professional resources for private innovative enterprises.

Since the public sector does not provide a corresponding increase in productivity, high taxes on labor (necessary to maintain this apparatus) create a "tax wedge" that makes legal production of goods for export less profitable compared to informal activities, creating a fiscal trap.

Information on tax rates and minimum wages is dynamic and depends on the decisions of individual entities (Federation of BiH, Republika Srpska, Brčko District), but the tension between social policy and business competitiveness requirements remains constant. (Table 3)

Table 3 – Comparative table of tax and social parameters (as of 2022–2023)

Parameter	Federation of Bosnia and Herzegovina (FBiH)	Republika Srpska (RS)	Brčko District (BD)
Minimum wage (net)	2022: 543 KM 2023: 596 KM	2022: ~650 KM 2023: 700 KM	close to entity level (~600–700 KM, separate regulation)
Minimum wage (€)	2022: ~€278 2023: ~€305	2023: ~€380–390	~€300–350 (estimate, depends on district decisions)
Income tax (PIT)	10% (flat)	8% (flat)	10% (flat)
Social contributions (employer)	~31% of gross (pension, health, unemployment)	~31% of gross	~24–26% (lower rates)

Social contributions (employer)	~10.5%	0% (transferred to employee after reforms)	0%
Tax wedge	~40%+ (high)	lower due to reforms	lowest in the country

Source: author's development on base of: Wageindicator, 2022-2023; Individual - Taxes on personal income, 2022-2023; Eurofast, 2023; Službene novine Federacije BiH та Službeni glasnik Republike Srpske, ¹⁵Moody's Analytics, 2022-2023¹⁶.

The table summarizes the key parameters of labor taxation and the minimum wage level in the main administrative units of Bosnia and Herzegovina - the Federation of Bosnia and Herzegovina (FBiH), the Republika Srpska (RS), and the Brčko District (BD) - in 2022–2023 (status of the regulatory framework and generalizations: 2023)¹⁷.

The data demonstrate the institutional fragmentation of the country's tax system: although personal income tax rates are formally similar (8 –10%), significant differences are observed in the structure and distribution of social contributions. The Federation of Bosnia and Herzegovina retains the classic model, with the burden divided between the employee (~31% of gross) and the employer (~10.5%), resulting in a high aggregate tax wedge (over 40%). In Republika Srpska, however, after tax reforms, the main burden was shifted to employees, and employer contributions were formally abolished, reducing the apparent level of tax pressure on business. The Brčko District is characterized by relatively lower social contribution rates (around 24–26%), making it the most "soft" jurisdiction in terms of fiscal burden.

The dynamics of the minimum wage in 2022–2023 reflect moderate indexation (around 9–10% in the Federation of BiH), driven by inflationary pressures but not accompanied by a systematic unification of approaches across entities. As a result, inter-regional disparities persist, which is important for both internal labor mobility and the overall competitiveness of the economy.

Thus, the above indicators confirm that the key characteristic of the labor market in Bosnia and Herzegovina remains not the level of rates as such, but their institutional differentiation and different logic of the fiscal burden, which directly affects the employment structure, tax base, and incentives for economic activity.

Due to the complex system in the Federation of BiH (where contributions are paid by both the employee and the employer), the total payroll burden makes export-oriented industries (textiles, woodworking) vulnerable. The costs per legal employee in the Federation are significantly higher than the actual amount he receives "in hand", which leads to envelope payments (PwC Worldwide Tax Summaries, 2023).

The presence of ~150 ministries at all levels of government requires colossal budget expenditures. This leads to the fact that tax revenues are directed not to infrastructure (which would help exporters), but to the maintenance of the administrative apparatus, where the average salary is consistently higher than the industrial one (Službene novine Federacije BiH).

Demographic processes in Bosnia and Herzegovina cannot be explained solely by the consequences of the war. Available data indicate structurally determined emigration associated with economic stagnation.

Key factors include:

- high youth unemployment;
- low wages;

¹⁵ Službene novine Federacije BiH та Službeni glasnik Republike Srpske. <http://www.sluzbenilist.ba/>

¹⁶ Moody's Analytics. (2022-2023). Bosnia and Herzegovina economic indicators.

<https://www.economy.com/bosnia-and-herzegovina/indicators>

¹⁷ Wageindicator Minimalna plata - Bosna i Hercegovina (2022 – 2023) <https://wageindicator.org/bs-ba/rad-u-bosni-i-hercegovini/minimalna-plata/>

- limited opportunities for professional development.

According to international organizations, youth unemployment is critically high, and the income gap with EU countries is multiple, which creates a powerful “pull effect”. At the same time, the IMF notes that the mass outflow of educated youth is a direct consequence of a weak private sector and lack of investment.

Migration becomes a self-reinforcing, chronic, stable (20+ years) process; remittances stimulate further migration; the outflow of human capital reduces growth potential; economic stagnation deepens.

As a result, a double effect is formed:

- brain drain — the outflow of qualified personnel;
- brawn drain — the outflow of medium-skilled labor.

Long-term consequences include: reduced labor resources; pressure on the pension system; reduced potential GDP.

The case of Bosnia and Herzegovina is considered a classic case of a post-conflict institutional trap . This configuration is sustained not only by formal constitutional fragmentation but also by divergent fiscal regimes and regulatory logics across entities, which hinder policy coordination and the formation of a coherent economic space. As a result, institutional complexity reproduces structural inefficiencies, limits reform capacity, and reinforces long-term developmental asymmetries.

Building on the structural constraints outlined above, the labor market outcomes of Bosnia and Herzegovina can be more fully understood through the lens of sustained outmigration. Persistent institutional fragmentation, uneven fiscal regimes, and limited economic convergence create strong push factors that translate into long-term demographic and human capital losses. In this context, brain drain is not a temporary byproduct of transition, but a structural feature of the post-conflict equilibrium.

To situate Bosnia and Herzegovina comparatively, Table 4 presents key proxies of brain drain dynamics across Bosnia, Ukraine, and selected Central and Eastern European (CEE) countries over the period ≈2014–2023. The table captures both the scale and persistence of outflows, allowing for a more precise assessment of how institutional constraints intersect with migration patterns in different regional contexts.

Table 4 – Brain drain proxies: Bosnia vs Ukraine vs CEE (≈2014–2023)

Indicator	Bosnia & Herzegovina	Ukraine	CEE (Poland, Czechia, Hungary)
Net migration (per 1,000)	~ -7 to -10	~ -5 to -15 (spikes after 2022)	~ -2 → +3
Population change (10 yrs)	≈ -15–18%	≈ -15–25%*	≈ stable / slight growth
Tertiary-educated emigration	High (survey-based evidence)	Very high (especially post-2022)	Moderate → declining
Youth emigration intentions	>50% (some surveys)	>60% (war context)	20–30%
Remittances (% GDP)	8–12%	10–15%	1–3%
FDI inflows (% GDP)	2–3%	2–4%	4–6%
Return migration	Low	Very low (war-driven outflow)	Increasing (since ~2018)
Skilled labor shortages (domestic)	Severe	Severe	Moderate

* includes military shock after 2022

Source: author’s development on base of: UN WPP, 2014-2023; OECD,2014-2023 ; UNFPA, 2014-2023 ; ICEF,2014-2023 ; Labour Migration in the Western Balkans,2022.¹⁸ , ¹⁹

¹⁸ Labour Migration in the Western Balkans: Mapping Patterns, Addressing Challenges and Reaping Benefits(2022)

<https://www.oecd.org/content/dam/oecd/en/publications/reports/2022/05/labour-migration-in-the-western->

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Comparative analysis shows that the outflow of skilled human capital is not an inevitable consequence of post-socialist transformation or armed conflict as such. The experience of Bosnia and Herzegovina demonstrates a stable, structurally rooted model of emigration of highly skilled personnel, while Ukraine in 2022–2024 is experiencing a sharply accelerated outflow due to military factors. At the same time, a number of Central and Eastern European countries were able to shift emigration trends due to export-oriented growth, integration into European markets, and expanding domestic labor demand. Such divergence emphasizes the decisive role of institutional capacity and economic structure in shaping long-term migration dynamics.

The contrast between Bosnia and Herzegovina and the CEE countries allows us to interpret brain drain not as a fixed state but as a potentially reversible outcome, depending on the quality of institutions and the economy's ability to generate high-productivity employment. The generalization of empirical data allows us to identify a cause-and-effect mechanism that is reproduced in the form of a sequential chain: institutional fragmentation → deterioration of the investment climate → lack of export transformation → stagnation of the labor market → mass emigration → depopulation. In this sense, the demographic crisis appears as an economically determined phenomenon, while economic stagnation has an institutional origin.

Thus, the so-called “Dayton Trap” can be interpreted as an empirically verified model of post-conflict inefficiency that integrates institutional, economic, and demographic variables into a single analytical framework. The set of data presented forms the basis for further testing of the generalized model: institutional fragmentation → weak export structure → low employment → migration → depopulation.

The model proposed below (Fig. 1) conceptualizes the causal mechanism linking institutional architecture to economic outcomes and migration processes in post-conflict conditions. The model clearly distinguishes between the direct effects of institutional fragmentation and indirect effects mediated by the export structure and labor market dynamics.

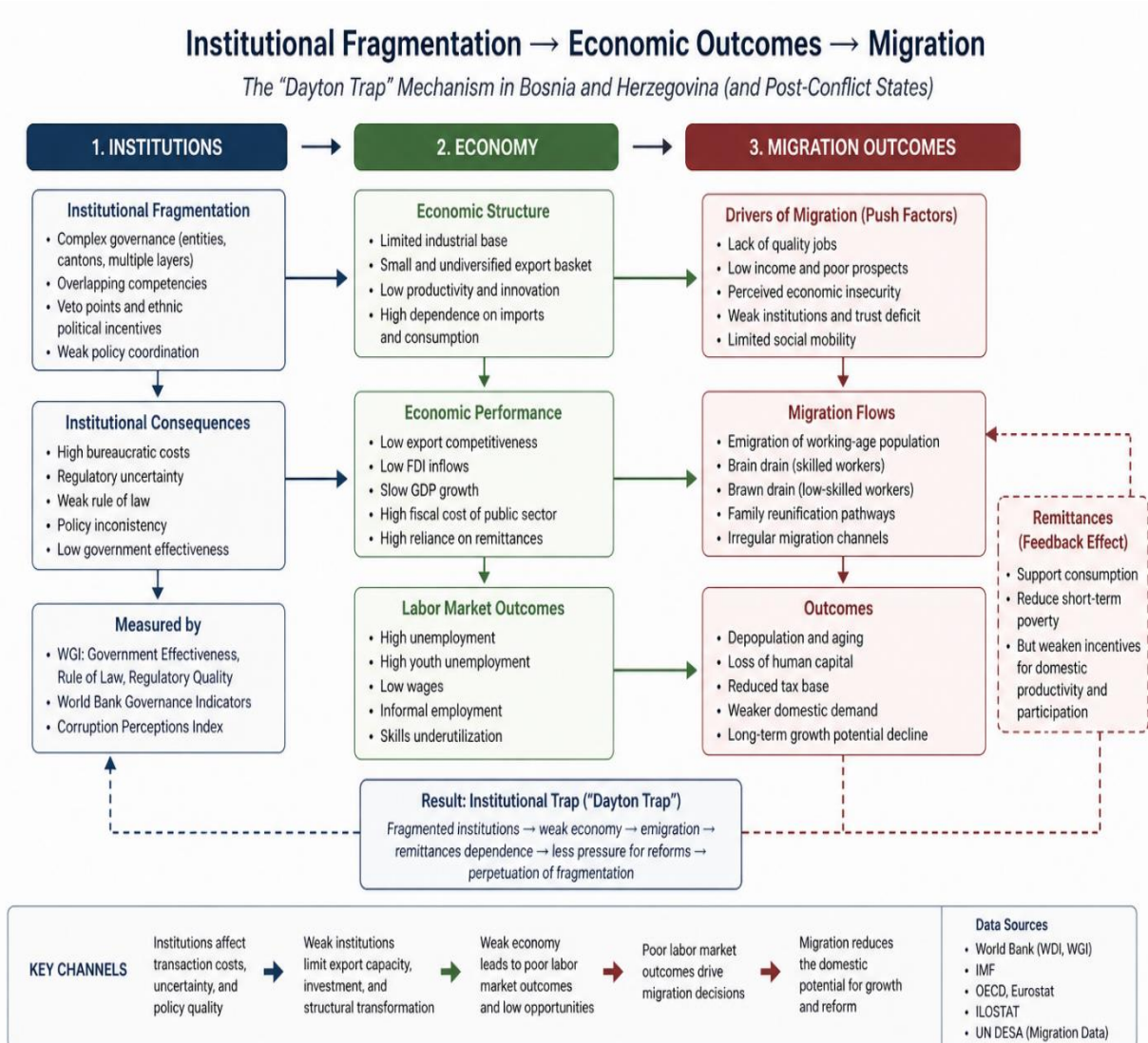


Figure 1 Mechanism of migration processes in post-conflict conditions.

Source: author's development on base of: Dayton Peace Agreement, World Bank; UNDP: Lessons Learned from Post-Conflict Recovery^{20, 21}.

This model posits that institutional fragmentation, characterized by overlapping competencies, weak policy coordination, and limited government effectiveness, is the main structural constraint that shapes economic trajectories.

The model identifies two key transmission channels. First, institutional inefficiencies hinder export development and reduce investment inflows, resulting in a narrow, low-productivity economic structure. Second, these structural constraints lead to adverse labor market consequences, including high unemployment and limited opportunities for upward mobility.

These economic conditions create strong pull factors for migration, especially among younger and skilled cohorts. The model also includes a feedback mechanism through remittances, which, by stabilizing consumption in the short run, strengthens incentives to migrate and weakens domestic productive capacity.

²⁰ United Nations Digital Library System <https://digitallibrary.un.org>

²¹ Westminster Foundation for Democracy.(2020). Cost of youth emigration from Bosnia and Herzegovina. <https://www.wfd.org/what-we-do/resources/cost-youth-emigration-bosnia-and-herzegovina-wfd-research>

Overall, the figure illustrates a self-reinforcing equilibrium, referred to as the “institutional trap,” in which fragmented governance structures lead to persistently low economic performance and demographic decline. This conceptualization shapes an empirical strategy by identifying both direct and indirect pathways linking institutions to migration outcomes.

Extrapolating the experience of Bosnia and Herzegovina (BiH) to the current realities of Ukraine allows us to identify critical macroeconomic policy risks in the post-war reconstruction period. Although Ukraine has a higher level of digitalization and preserved macro-financial stability, the structural challenges of recovery are related: the risk of donor dependence and the threat of irreversible depopulation.

Large-scale infusions of international aid without a parallel reindustrialization policy can provoke an import boom, a widening trade deficit, and the stagnation of export-oriented production.

The World Bank (RDNA3) estimates that Ukraine’s reconstruction needs are at least \$486 billion (World Bank et al., 2024). As the BiH experience shows, if international assistance (e.g., Ukraine Facility funds) are directed primarily to the reconstruction of physical infrastructure and support for the social sector, this will create short-term GDP growth, stimulated by domestic consumption. However, such stimulation inevitably widens the current account deficit. Without targeted lending and risk insurance for foreign direct investment (FDI) in the tradable sector, Ukraine risks replicating the Bosnian model of macroeconomic stability without a domestic growth engine (Gorodnichenko et al., 2022)²².

The lack of high-productivity jobs in the private export sector will turn temporary refugee status into permanent economic emigration, triggering the Dutch disease trap through remittances.

As of early 2024, UNHCR estimates that over 6.4 million Ukrainian refugees are abroad (UNHCR, 2024)²³. In BiH, the lack of an export-oriented economy made it impossible for citizens to return after the signing of the Dayton Accords. If Ukraine’s reconstruction is not accompanied by the integration of national producers into global value chains (GVCs), the economy will not be able to generate wages competitive with those in the EU labor markets. Accordingly, instead of returning human capital, Ukraine will receive a constant inflow of remittances, which, as demonstrated by the Balkan example, will further overvalue the real exchange rate and suppress exports.

To avoid the “Dayton trap”, Ukraine must maintain unitary consolidation of economic policy, avoiding bureaucratic fragmentation, and introduce radical incentives for investors.

One of the main reasons for BiH’s reindustrialization failure was hyperdecentralization and the duplication of regulatory functions. Ukraine should maintain a balance between administrative decentralization (successful local government reform) and tight centralization of strategic investment planning. According to the recommendations of leading European economists (Becker et al., 2022)²⁴, the key safeguards should be:

1. Comprehensive insurance of military and political risks (through MIGA mechanisms and national export credit agencies of the G7 countries).
2. Deregulation of the export sector and creation of industrial parks with preferential connection to networks.
3. Synchronization of reconstruction with the EU accession-driven reforms, which will provide an external anchor for institutional transformations and prevent the rent-seeking behavior of political elites.

Discussion

²² Gorodnichenko, Y., Sologoub, I., & Weder di Mauro, B. (Eds.). (2022). *Rebuilding Ukraine: Principles and policies*. CEPR Press. <https://cepr.org/publications/books-and-reports/rebuilding-ukraine-principles-and-policies>

²³ United Nations World Population Prospects (WPP) <https://population.un.org/wpp>

²⁴ Becker, T., Eichengreen, B., Gorodnichenko, Y., Guriev, S., Johnson, S., Mylovannov, T., Rogoff, K., & Weder di Mauro, B. (2022). *A Blueprint for the Reconstruction of Ukraine*. CEPR Press. <https://cepr.org/publications/books-and-reports/blueprint-reconstruction-ukraine>

The results of this study complement the existing literature on the economics of post-conflict reconstruction, shifting the focus from short-term macroeconomic stabilization to long-term structural transformations.

The traditional approach to the analysis of the Dayton Accords (for example, in works on political science and international relations) often views them as a successful instrument for achieving a “negative peace” (the cessation of armed violence). However, from the standpoint of institutional economics, we argue that the price of such peace proved too high: the institutional compromise blocked the transition to a “positive peace” based on sustainable economic growth.

Our projection in Ukraine enters a discussion with the dominant narrative that a large-scale capital infusion (like the “Marshall Plan”) automatically guarantees economic recovery. Drawing on the case of BiH, we argue that without a strong focus on an export-oriented productive base, the influx of donor funds and refugee remittances will generate a “Dutch disease” effect. The article highlights the critical trade-off between rapid infrastructure recovery and the more difficult but necessary creation of institutions for integration into global value chains.

Conclusions

This study analyzed the risks of using irrelevant post-conflict governance models in Bosnia and Herzegovina and their implications for Ukraine’s reconstruction strategy. The main conclusions are summarized in three key points:

1. Institutional trap as a barrier to exports: The hyper-decentralized and fragmented institutional design established by the peace agreements in BiH has critically increased transaction costs, blocking FDI inflows into the tradable goods sector.
2. Macroeconomic nature of depopulation: The “depopulation catastrophe” in BiH is not simply a consequence of the war, but a direct result of the economy’s inability to create export-oriented jobs. The substitution of exports with remittances has perpetuated economic stagnation.
3. Imperatives for Ukraine: To avoid the “Bosnian scenario,” Ukraine must reject the donor-driven economy model. The priority should be a centralized policy to attract investment in industry, ensure military risks, and create highly productive jobs as the only effective tool for the return of migrants.

To avoid the “Dayton Trap”—a macroeconomic stabilization accompanied by stagnant exports and mass emigration—the Ukrainian government and international donors should reconsider the paradigm of post-war reconstruction. The priority should not be simply infrastructure reconstruction, but structural transformation of the economy based on export-led growth. Based on the comparative analysis, the following policy imperatives are proposed:

In contrast to Bosnia and Herzegovina, where decentralization led to institutional paralysis and the multiplication of bureaucratic barriers, Ukraine should implement a model of “asymmetric decentralization.”

- Action: Social services and basic infrastructure should be managed at the level of territorial communities, while foreign direct investment (FDI) attraction policies and export regulation should be maximally centralized and digitalized (through platforms such as “Action”).

- Mechanism: It is necessary to create a single investment “window” with extraterritorial jurisdiction (for example, based on English law for large investors), which eliminates local corruption risks and transaction costs, which have become fatal for the BiH economy (EBRD, 2023)²⁵.

The experience of the Balkans shows that international aid and remittances primarily drive growth in the services and construction (non-tradable) sectors, which do not build long-term competitiveness. Economic growth is determined not by the volume of investment, but by what the country exports (Hausmann, Hwang, & Rodrik, 2007).

²⁵ European Bank for Reconstruction and Development (EBRD). (2023). *Transition Report 2023-24: Transitions big and small*. EBRD. <https://www.ebrd.com/transition-report-2023-24>

- Action: International donor funds (from the Ukraine Facility) should be used as leverage to reduce the cost of capital in the industry.
- Mechanism: Implement large-scale military and political risk insurance programs through the Multilateral Investment Guarantee Agency (MIGA) and national export credit agencies (ECAs). In parallel, it is necessary to subsidize grid connection for enterprises that generate more than 50% of their revenue from high-value-added exports.

Attempts to stop depopulation solely through social benefits or patriotic appeals are ineffective. As the experience of BiH shows, emigration stops only when the wage gap between the country of origin and the country of destination is reduced to an acceptable level (Clemens, 2014).

- Action: Synchronize migration and industrial policies. The return of human capital should be stimulated exclusively through the creation of highly productive jobs.
- Mechanism: Provide tax preferences (e.g., reducing the tax burden on the payroll) for exporting companies that create new jobs for returnees and veterans. The integration of Ukrainian enterprises into the European Union's global value chains (GVCs) is the only reliable mechanism for increasing labor productivity to a level capable of competing with Poland's or Germany's labor markets.

Limitations and Future Research

Despite the stability of the identified causal relationships, this study has a number of objective limitations that should be considered when interpreting the results:

- Conflict dynamics: The war in Ukraine is ongoing, which makes macroeconomic and demographic forecasts (in particular, regarding the final number of refugees who will not return) highly volatile. Data may change significantly over a ~1-2-year horizon.
- Scale and geopolitical context: Ukraine differs significantly from BiH in terms of territory, population size, and industrial potential. In addition, the status of a candidate for EU accession provides Ukraine with a much stronger external institutional anchor, unlike BiH, which did not have one in the first decades after Dayton.
- Data limitations: The analysis of the shadow economy and informal employment, which traditionally absorb a significant part of the labor force in post-conflict societies, is complicated by the lack of relevant statistical data for both countries.

Further research should focus on econometric modeling of the impact of specific military risk insurance instruments on FDI flows into Ukraine, as well as on the development of sectoral strategies to integrate Ukrainian industry into European markets.

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ADDITIONAL INFORMATION

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