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SECTION I
CURRENT ISSUES OF WORLD POLITICS

DEFINITIONAL AND CONCEPTUAL FRAMEWORKS OF WATER DIPLOMACY[1]

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Abstract: The paper provides a conceptual synthesis of water diplomacy by examining selected definitions and key analytical frameworks in contemporary research on water diplomacy. It discusses the conceptual ambiguity surrounding water diplomacy, hydro-diplomacy, and blue diplomacy, and distinguishes water diplomacy from water management and water cooperation. Methodologically, the study employs qualitative conceptual analysis of governance-oriented, integrative, and critical approaches, including the Water Diplomacy Framework, Multi-Track Water Diplomacy Framework, Water Diplomacy Paths, nexus governance, and hydro-hegemony. The authors argue that water diplomacy has evolved from technocratic and managerial understandings toward more comprehensive, political, and critical interpretations of transboundary water relations.
Keywords: water diplomacy, hydro-diplomacy, blue diplomacy, water cooperation, transboundary water management, hydro-hegemony
JEL: F51, F53, Q25

Introduction

Water, both as a material resource and as a political issue, is gaining increasingly significant strategic importance in the current global system. The conventional textbook understanding of the "water cycle" captures only part of the reality because "water does not just cycle through natural processes; it also transforms as it moves through human systems, shaped by governance, politics, economics, and cultural values" (Smith et al., 2025). In the context of anthropogenic climate change, growing demographic pressure, and deepening inequalities in access to natural resources, issues of water distribution and management are becoming an integral part of broader discussions about security, sovereignty, and global governance.

From the perspective of international relations theory, the issue of water resources can be interpreted through several competing, yet complementary paradigmatic approaches. Realist interpretations emphasize the conflict-generating potential of scarce resources, viewing water as an object of strategic rivalry among states striving to maximize power and security in an anarchic international system. In contrast, liberal and institutionalist approaches point to the ability of international institutions, regimes, and normative frameworks to facilitate cooperation even in conditions of asymmetric interests, thereby challenging deterministic assumptions about the inevitability of conflict. Constructivist perspectives subsequently broaden

[1] This paper represents a partial research output of the project VEGA No. 2/0093/26, *Water Diplomacy in International Relations of the 21st Century.*

the analytical scope to include the importance of discourses, identities, and normative structures that shape the very understanding of water as a security or development issue.

Despite the increasing frequency of use of the term water diplomacy in both academic and policy discourse, its conceptual anchoring remains ambiguous. The literature is characterized by fragmentation across disciplinary lines: from hydrology and environmental sciences, through political economy to security studies, leading to divergent definitions, analytical approaches, and methodological strategies. This state of the art complicates the systematic comparison of empirical findings and limits the cumulative nature of knowledge in this area.

The article's objective is to provide a synthesis of water diplomacy definitions and conceptual frameworks by discussing notions like water diplomacy, hydro-diplomacy, and blue diplomacy and selected conceptual frameworks. We aim to demonstrate how the field has gradually evolved from technocratic and governance-oriented perspectives toward more political and critical understandings of hydropolitical relations.

Methodologically, the article employs a qualitative conceptual analysis of selected definitions and frameworks of water diplomacy. The frameworks discussed in this paper were chosen in order to capture the diversity of various perspectives within the field of transboundary water governance. The analysis focuses on their basic assumptions regarding cooperation, conflict, governance, and power relations.

The article is structured as follows. The first section discusses the definitional ambiguity surrounding water diplomacy and related terms. The following sections analyze selected conceptual frameworks, including governance-oriented approaches, multi-track diplomacy, nexus governance, and critical hydropolitical perspectives such as hydro-hegemony.

1 Definitions of Water Diplomacy

Water diplomacy lacks a universally agreed definition, and the literature employs a range of related terms such as *water diplomacy*, *hydro-diplomacy*, and *blue diplomacy*, often used interchangeably or with only subtle conceptual distinctions.

In 1996, the term "hydrodiplomacy" first appeared in the title of an academic publication in the English-language academic literature (Vlachos, 1996). Some authors use hydro-diplomacy for concrete transboundary water management practice that blends water diplomacy and science diplomacy, e.g., in U.S. – Mexico river governance (Wilder et al., 2020). Hydro-diplomacy has traditionally been focused on formal international relations and the governance of transboundary rivers. However, more recent contributions seek to broaden its scope by applying the concept to local-level initiatives of water-based environmental peacebuilding, as demonstrated by a study from rural Southwest Morocco (Farnum, 2018). As we can observe, hydrodiplomacy is not limited to inland or continental waters, but relates to all types of water resources, from groundwater and rivers to seas, oceans, and even the Arctic (Gutu, 2016).

Blue diplomacy is closely connected to the concept of the "blue economy" and UN Sustainable Development Goals, which refer to sustainable economic activities based on ocean resources (Lee et al., 2020; Martínez-Vázquez et al., 2021). Blue diplomacy is also a strategic foreign policy approach focused on the sustainable management, governance, and economic use of water resources. Some authors use the term blue diplomacy specifically in relation to oceans and maritime waters, linking it to the growing strategic importance of maritime spaces and interests in international relations (Doyle, 2018; Fasinu et al., 2025; Haque, 2021; Naseer, 2025; Putri & Raharyo, 2019; Yadav, 2023). The concept has gained prominence in regions such as the Indo-Pacific, Africa, and Europe, among island states and coastal developing countries, where maritime interests are central to economic growth, environmental sustainability, and geopolitical strategy. Within this perspective, blue diplomacy can be understood as a state's effort to pursue strategic and economic interests at sea through maritime policies, naval presence, and broader ocean-related initiatives aimed at strengthening its position and influence in maritime affairs. The strategic

relevance of water governance in Europe is also reflected in the European Economic and Social Committee's (EESC) call for an "EU Blue Deal" adopted in 2023 (European Economic and Social Committee, 2023). Conceived as a comprehensive European water strategy, the Blue Deal responds to increasing water stress, infrastructure vulnerabilities, and broader socio-economic implications of water scarcity across Europe. In this context, blue diplomacy is not limited solely to maritime affairs, but represents a broader strategic approach linking water governance, sustainability, economic resilience, and international cooperation within European policy discourse.

Despite growing academic and policy attention, definitional variation remains significant. Water diplomacy lacks a universally agreed definition but is consistently understood as deliberative political processes addressing transboundary water disputes and governance. Sehring et al. (2022) define water diplomacy as "deliberative political processes and practices of preventing, mitigating, and resolving disputes over transboundary water resources" using foreign policy means across multiple tracks and scales. However, Keskinen et al. (2021) and Kalelova et al. (2023) explicitly note there is "no common definition" for water diplomacy. Kalelova et al. (2023) define water diplomacy as bilateral or multilateral negotiations over water issues and the peaceful settlement of differences between riparian (river-sharing) countries. Keskinen et al. (2021) introduce a more precise definition of water diplomacy as a "dynamic, politically-oriented process that aims to prevent, mitigate, and resolve water-related tensions in shared waters by making simultaneous use of diplomatic tools, water-related know-how and cooperation mechanisms across multiple diplomacy tracks". According to Mirzabaev et al. (2019), water diplomacy encompasses collaborative research activities, institutional capacity development, and continuous dialogue processes aimed at reducing mistrust and strengthening cooperation in the governance of transboundary water resources.

Schmeier (2018) points out that "water diplomacy can be defined as the use of diplomatic instruments to existing or emerging disagreements and conflicts over shared water resources with the aim to solve or mitigate those for the sake of cooperation, regional stability, and peace", while:

- diplomatic instruments involve negotiations, conflict-resolution mechanisms, consultation frameworks, and joint fact-finding initiatives, not technical instruments;
- conflicts and disagreements include situations in which user groups (nationally or internationally) have competing uses for a scarce resource that can lead to disagreements that destabilize communities, countries or regions;
- the ultimate aim of water diplomacy is not only the management of water resources, but also the promotion of cooperation, stability, and peace through diplomatic engagement and cooperation.

This distinction is particularly crucial when differentiating water diplomacy from related concepts such as transboundary water management and water cooperation. Transboundary water management primarily refers to the application of technical and managerial tools to shared water resources in order to improve water-related outcomes across borders, such as water quality monitoring or coordinated river basin management (Schmeier, 2018). Water cooperation, by contrast, focuses on the mutual benefits that states and communities can achieve through the cooperative rather than unilateral use of shared water resources, for example in hydropower production or flood control (Schmeier, 2018). Unlike these approaches, water diplomacy emphasizes the political and diplomatic management of disagreements and competing interests surrounding shared water resources. However, the boundaries between the concepts of "water management", "water cooperation", and "water diplomacy" are analytical rather than strictly practical. In real-world cases, water management, cooperation, and diplomacy frequently overlap (cf. Kittikhoun & Schmeier, 2020). Similarly, Pebbles (2020) argues that water diplomacy helps to "reduce uncertainty, mitigate disagreement and prevent conflicts, build trust, and promote

stability and cooperation with respect to water resources", while emphasizes that cooperative or transboundary water management and water diplomacy are mutually reinforcing processes.

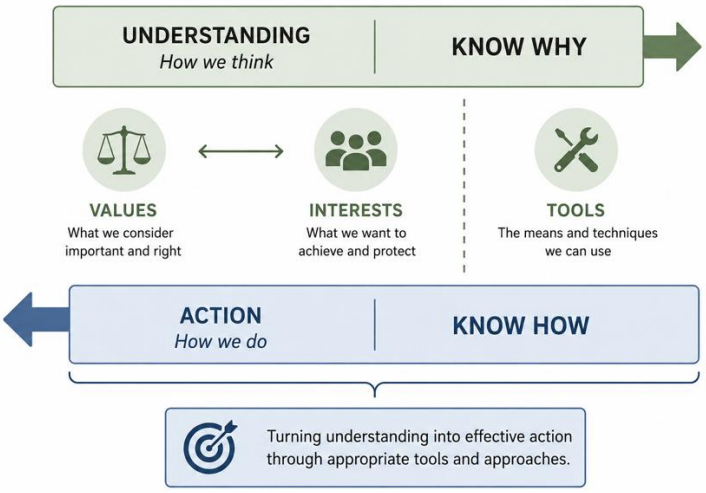
2 Selected Conceptual Frameworks of Water Diplomacy

2.1 Water Diplomacy Framework

The Water Diplomacy Framework (WDF), developed by Islam & Susskind (2012), represents an approach to water management that treats water as a flexible resource managed through negotiated, non-zero-sum approaches rather than competitive allocation. The framework conceptualizes water problems as complex networks of actors, institutions, values, and interests, and emphasizes negotiated solutions that move beyond zero-sum allocation conflicts. Solutions will emerge if a negotiated or diplomatic approach that blends science, policy, and politics is used to manage water networks.

Actually, the water diplomacy framework prioritizes understanding the "know why" before applying the "know how." It distinguishes between values, interests, and tools, arguing that perceptions of water problems are shaped by stakeholders' beliefs and objectives, while tools merely support decision-making and problem-solving processes (Islam & Repella, 2015) Effective water governance therefore depends on recognizing underlying values and interests before selecting technical or policy solutions.

Figure 1: The distinction between "know why" and "know how" in conceptualizing water diplomacy



Source: Authors' adaptation according to Islam & Repella (2015, p. 3).
Visual redesign assisted by AI-generated graphic processing.

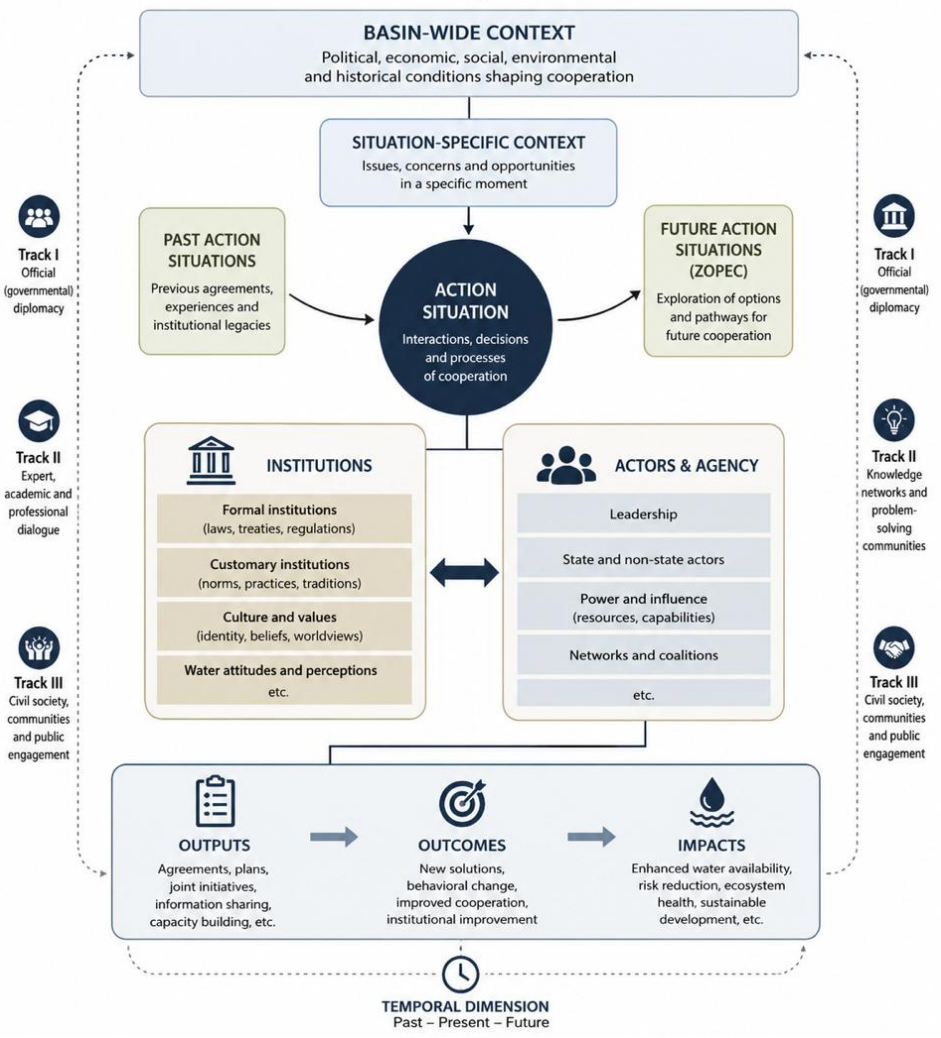
In contrast to technocratic approaches focused primarily on managerial solutions and governance tools, the WDF emphasizes the importance of understanding how water-related problems are politically and socially constructed. Rather than asking only "how do we manage water", water diplomacy also asks "how do we think about water problems" (Salmoral et al., 2019). Therefore, water diplomacy emerged partly as a critique of technocratic and purely managerial approaches to water governance. Rather than focusing exclusively on technical solutions and coordination mechanisms, water diplomacy emphasizes how water problems are socially and politically constructed through competing interests, values, and power relations.

2.2 Multi-Track Water Diplomacy Framework

The Multi-Track Water Diplomacy Framework (MTWDF) emphasizes actor-inclusive approaches to transboundary water cooperation that extend beyond formal legal agreements to incorporate informal processes and cultural norms across multiple governance scales. More than focusing on formal interstate negotiations and legal agreements, the framework incorporates interactions among governmental actors, local communities, civil society organizations, academic and expert networks, and private stakeholders (Huntjens et al., 2016). Consequently, cooperation emerges not only through official diplomatic channels, but also through informal trust-building processes, knowledge sharing, participatory governance, and multi-level coordination across sectors and scales.

In the case of the Brahmaputra river basin, the authors applied a specific framework to analyse the factors shaping transboundary water cooperation among riparian states and non-state actors in a politically sensitive and asymmetrical regional context (Yasuda et al., 2018). The case study demonstrated the potential of multi-track water diplomacy to facilitate a cooperation and make a paradigm shift from zero-sum perceptions of water disputes toward multiple-sum and mutually beneficial forms of cooperation (Huntjens et al., 2016).

Figure 2: Multi-Track Water Diplomacy Framework



Source: Authors' adaptation according to Huntjens et al., 2016, p. 25.
Visual redesign assisted by AI-generated graphic processing.

The MTWDF also highlights that transboundary water cooperation cannot be reduced to formal institutional arrangements alone. Its application shows that formal and informal institutions, and the interaction of state and non-state actors shape the dynamics and outcomes of water diplomacy. By examining cooperation across multiple diplomatic tracks provides a robust analytical tool for understanding how governance structures, power relations, and actor interactions influence processes of water cooperation (Yasuda et al., 2018).

2.3 Water Diplomlacy Paths Framework

Keskinen et al. (2021) recognize five key aspects for water diplomacy: political, preventive, integrative, cooperative, and technical. This categorization provides a relatively straightforward overview of crucial aspects of water diplomacy and related approaches (see Table 1). Based on this, it is possible to differentiate between water diplomacy and transboundary water cooperation as distinct yet complementary concepts. While transboundary water cooperation is generally oriented toward the technical and institutional management of shared water resources (like monitoring, data gathering, impact assessment & planning), water diplomacy embeds water governance within broader geopolitical and foreign-policy dynamics, including diplomatic negotiation, regional political interaction, conflict prevention, and strategic considerations related to security, trade, and interstate relations (Keskinen et al., 2021). In other words, water diplomacy explicitly recognizes the role of power asymmetries, competing national interests, and compromise between cooperative and anticooperative interaction strategies.

Table 1: Five key aspects of water diplomacy with examples of related key approaches, frameworks and mechanisms.

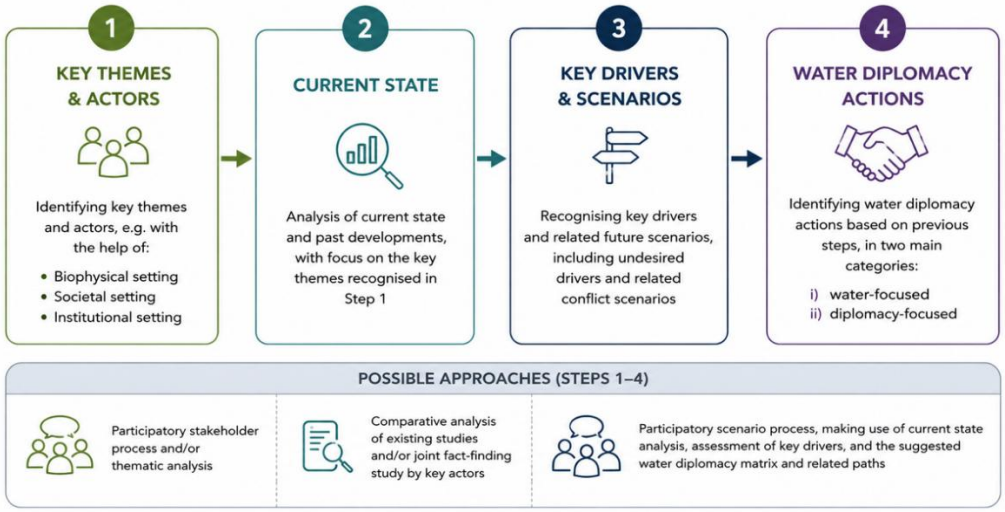
Water diplomacy aspects	Examples of related key approaches, frameworks and mechanism
POLITICAL: Inherently political process that goes far beyond water per se; part of wider diplomatic setting and geopolitics	The most strongly political track: critical hydropolitics; geopolitics; foreign policy; regional cooperation
PREVENTIVE: Peace mediation and conflict prevention	Preventive diplomacy; peace mediation and peace building; conflict resolution
INTEGRATIVE: Connecting multiple forms and levels of institutions and stakeholders and the different types of knowledge	Multi-track Diplomacy; Integrative Diplomacy; Integrated Water Resources Management; knowledge co-production
COOPERATIVE: Cooperation and good governance to promote reasonable and equitable water use	Cooperative arrangements; benefitsharing approaches; international agreements on shared waters; sustainability
TECHNICAL: providing an information basis for the diplomacy about water, related resources and the environment	The most strongly technical track: Information on hydrology, water quantity, quality and timing; knowledge production and products such as hydrological models and impact assessments

Source: Five key aspects of water diplomacy according to Keskinen et al. (2021, p. 3).

The Water Diplomacy Paths (WDP) approach is structured around four steps (Keskinen et al., 2021). The first step focuses on identifying the key themes and actors shaping a given water diplomacy context. The second step analyses the current state of cooperation, institutional arrangements, historical trajectories, and existing political relations. The third step seeks to identify key drivers and possible future scenarios, including undesirable developments and potential conflict trajectories. Finally, the fourth step focuses on identifying possible water diplomacy actions to mitigate tensions, strengthen cooperation, and facilitate adaptive and preventive

governance across multiple diplomatic and institutional tracks. To demonstrate the potential use of the WDP approach, the authors applied it in three cases from transboundary settings related to Central Asia, the Mekong Region in Southeast Asia, and Finnish-Russian water cooperation (Keskinen et al., 2021).

Figure 3: Water Diplomacy Paths approach



Source: Visualisation of the four main steps of Water Diplomacy Paths approach according to Keskinen et al. (2021, p. 7). Visual redesign assisted by AI-generated graphic processing.

2.4 Nexus Governance Framework

Recent research emphasizes nexus approaches (Albrecht et al., 2018; McGrane et al., 2019) as responses to the interdependencies between natural resources, sustainability, and governance (Pahl-Wostl, 2019). Nexus approaches could be perceived as an analytical tool, a governance framework, or an emerging discourse (Keskinen et al., 2016).

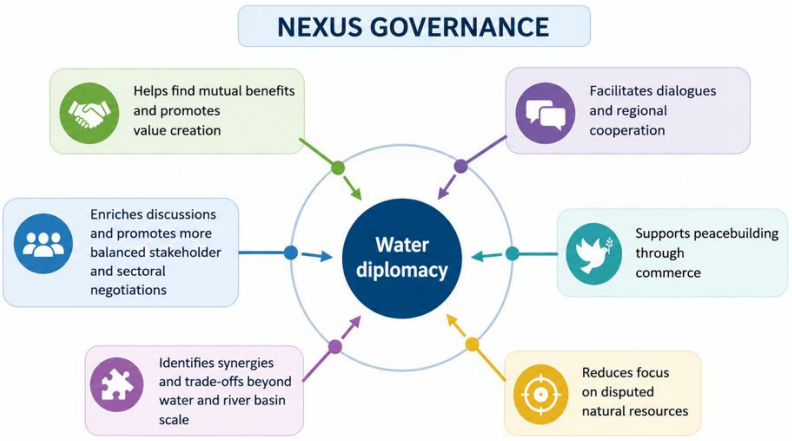
An innovative shift in the debate is represented by the work of Salmoral et al. (2019), who have moved the nexus approach towards the concept of "nexus governance". It is based on the assumption that the traditional water-energy-food (WEF) nexus approach, while allowing for the identification of linkages among water, energy, food, and environmental systems, often remains too technocratic and apolitical (Salmoral et al., 2019). Nexus governance is consequently understood as a governance approach that integrates water management with broader environmental, social, and economic dimensions across multiple sectors and actors (Pahl-Wostl, 2019; Salmoral et al., 2020; Stein & Jaspersen, 2019; White et al., 2017). Salmoral et al. (2019) argue that traditionally proposed solutions in nexus governance are often based mainly on rationalization and optimization models of decision-making, which insufficiently reflect power asymmetries, conflicting interests, or issues of resource distribution. In this regard, they contend that water diplomacy represents a suitable complement to nexus governance, as it introduces an explicitly political dimension to the analysis.

According to the authors (Salmoral et al., 2019), nexus governance enriches water diplomacy by expanding the discussion beyond the pure water sector and allowing for the analysis of broader socio-economic linkages among water, energy, and food. On the other hand, water diplomacy provides nexus governance with tools for managing complexity, uncertainty, and political conflicts, in particular through joint fact-finding, collaborative adaptive management, and a mutual gains approach (Salmoral et al., 2019).

The empirical part of the study is based on two case studies: the As-Samra Wastewater Treatment Plant project in Jordan and the DAFNE project in the Zambezi River Basin. The Jordanian case shows that nexus governance can support water diplomacy by linking

environmental, energy, and agricultural policies, reducing dependence on transboundary water resources, and creating space for wider regional cooperation (Salmoral et al., 2019).

Figure 4: Added value of nexus governance to water diplomacy



Source: Authors' adaptation according to Salmoral et al. (2019).
Visual redesign assisted by AI-generated graphic processing.

The DAFNE project demonstrates how water diplomacy tools can be used to implement nexus governance in a transboundary basin through participatory modeling, joint data sharing, and negotiation simulations between interested actors (Salmoral et al., 2019). The authors argue that without reflecting on power relations, distributional conflicts, and the differing interests of actors, it is impossible to achieve long-term sustainable and politically acceptable solutions in the areas of water, energy, and food systems management (Salmoral et al., 2019).

2.5 Hydro-Hegemony Framework

Critical views on water diplomacy have emerged in response to technocratic and depoliticized conceptualizations of transboundary water governance. Mainstream water diplomacy literature often emphasizes cooperation, stability, and conflict prevention. According to some scholars, such perspectives often conceal underlying relations of power, inequality and domination. In this sense, water diplomacy is not merely regarded as a neutral mechanism for resource management, but as a political process constructed through asymmetrical power relations, competing identities, geopolitical interests and historically embedded structures of inequality.

The concept of hydro-hegemony is built upon the distinction between hegemony and domination. Drawing on the work of Antonio Gramsci and Ian Lustick, a hegemon does not simply coerce, but it manufactures compliance (Zeitoun & Warner, 2006). Hydro-hegemony refers to the predominance of a powerful riparian actor within a shared river basin, exercised through different forms of control over water resources (Zeitoun & Warner, 2006). Within this framework, hegemonic actors employ a range of instruments, from coercive pressure and treaty-making to discursive and ideological influence, often operating in a relatively weak international institutional environment.

One of the critiques of early hydro-hegemony scholarship concerns its state-centric orientation (Warner et al., 2017). Critics have pointed out that hydropolitical analysis has often modeled states as unified and territorially coherent actors, thus reproducing the so-called "territorial trap" (Warner et al., 2017) and ignoring the role of non-state actors, domestic political cleavages, and transnational networks in shaping transboundary water relations.

In the context of the competition for water resources in the Tigris, Euphrates, Jordan, and Nile river basins, the hydro-hegemon has the option to adopt either a "negative" form of dominant hydro-hegemony, or a "positive" form of hydro-hegemonic leadership, in which all riparians benefit (Zeitoun & Warner, 2006). The concept of hydro-hegemony reveals how many hydropolitical analyses tend to oversimplify reality by assuming that conflict is negative and cooperation is automatically positive, even though many forms of cooperation can, in fact, be asymmetrical and reproduce dominance. Zeitoun and Mirumachi (2008) point out that transboundary water interaction is an inherently political process shaped by power asymmetries and cannot be reduced to binary categories of conflict or cooperation. They propose the Transboundary Waters Interaction NexuS (TWINS), a two-dimensional matrix that allows for the simultaneous observation of the intensity of conflict and the intensity of cooperation (Zeitoun & Mirumachi, 2008).

More recent critical contributions further expanded hydro-hegemony debates beyond material power asymmetries and interstate domination by incorporating questions of identity, equity, and discursive power. In this regard, the post-colonial approach of Nagheeby and Amezaga (2023) maintains that contemporary water diplomacy has long been shaped by dominant Global North perspectives that frequently reproduce hegemonic forms of knowledge and geopolitical interests and marginalize the historical experiences and socio-political realities of the Global South. The paper introduces a new understanding of water conflict transformation that prioritizes equity and the creation of collective identity within international river basins, arguing that the dominant security-peace orientation of water diplomacy, often shaped by the geopolitical interests of external actors, can be challenged by a stronger equity-identity approach (Nagheeby & Amezaga, 2023).

Conclusion

Water diplomacy has emerged as a response to a world in which water can no longer be conceived as a natural resource or as a technical object of management. It has become a political category, a medium through which questions of security, development, sovereignty, sustainability, and justice are negotiated. This paper has demonstrated that the growing use of the term water diplomacy is indicative not only of the growing strategic importance of water, but also of a broader conceptual shift in the study of transboundary water relations. The concept of water diplomacy is emerging as an analytical framework that reflects a shift from traditional, technocratic approaches to water management toward politically and normatively anchored processes of negotiation and cooperation.

The first key finding is that water diplomacy remains conceptually open and internally diverse. Instead of producing a single definition or consensus on the concept, the article suggests that water diplomacy should be approached as an evolving umbrella concept that brings together different strands of research and practice, including related notions such as hydro-diplomacy and blue diplomacy. Its conceptual ambiguity reflects the diversity of empirical contexts in which water becomes politically relevant. The article also shows that the distinction between water diplomacy, water management, and water cooperation is primarily analytical rather than practical, since these processes frequently overlap in real-world cases.

The conceptual frameworks discussed in this article further demonstrate the shift from technocratic, governance-centric water diplomacy to more inclusive and critical understandings of hydropolitical relations. Governance-oriented frameworks such as the Water Diplomacy Framework and Water Diplomacy Paths highlight negotiation, adaptive governance, and institutional cooperation, while integrative approaches such as the Multi-Track Water Diplomacy Framework and nexus governance highlight the importance of multi-level governance, stakeholder inclusion, and cross-sectoral interdependencies. Another strand of the literature, the hydro-hegemony framework, shifts attention away from cooperation and governance

mechanisms to power asymmetries, domination, and the political conditions under which cooperation occurs. This approach makes it harder to assume cooperation is always positive or that the absence of overt conflict indicates stable or just water relations. The post-colonial perspective also implies that discursive power, identity, equity, and historical context are important in the study of transboundary water relations.

Overall, our study demonstrates that water diplomacy is best understood as a space of conceptual intersections rather than a stable concept. Its analytical value is its ability to link technical knowledge, institutional cooperation, diplomatic practice, and critical reflection on power relations. This conceptual openness also offers an explanation for the application of water diplomacy in a variety of empirical settings, from transboundary river basins and groundwater governance to maritime spaces, regional cooperation, and broader discussions around sustainability and security. The analysis, therefore, points to the value of integrating hydropolitics, international political economy, environmental governance, and critical international relations theory to better capture the interactions among cooperation, conflict, power asymmetries, and resource distribution in contemporary water relations.

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INVESTMENT COOPERATION BETWEEN POLAND AND UKRAINE

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Abstract: The article analyzes investment cooperation between Poland and Ukraine in the context of geopolitical changes, armed conflict, and Ukraine's European integration process. It assesses legal and institutional frameworks, bilateral treaties, investment protection mechanisms, and available risk mitigation tools (PRI, FIDC, risk-sharing programs). Based on statistics and case studies (BGK-Kredobank, KUKE, PAIH), it identifies sectoral priorities, obstacles, and opportunities for Polish investment in post-war reconstruction. In conclusion, the article argues that existing mechanisms provide a functional foundation but should be supplemented with broader safeguards, long-term financing, and more effective dispute-resolution arrangements. With a targeted mix of policies and financial instruments, Polish-Ukrainian cooperation can make a significant contribution to Ukraine's recovery.
Keywords: investments, political risk, post-war reconstruction, legal framework
JEL: K33

Introduction

In a changing international system, the geopolitical significance of the Republic of Poland and Ukraine for the Central European region as a foundation for Europe's security and development is growing. Security challenges and threats, including Russia's aggressive policy toward Ukraine, have highlighted the need to strengthen cooperation between the two countries across multiple levels of strategic partnership. The aim of this article is to systematically map the state of investment cooperation between Poland and Ukraine, identify sectoral priorities, and evaluate the effectiveness of available support and risk mitigation tools (bilateral agreements, political risk insurance, risk-sharing programs, FIDC, etc.). The analytical approach combines a legal-analytical framework with an empirical evaluation of statistical data and practical case studies (e.g., BGK-Kredobank, KUKE, PAIH initiatives), focusing on specific barriers to business, issues of financial accessibility, and the institutional capacities of both countries.

The structure of the text includes an overview of the legal frameworks of Poland and Ukraine, an assessment of bilateral investment treaties and dispute resolution mechanisms, an identification of sectoral priorities (industry, financial services, logistics, agriculture, energy), and an evaluation of tools for mitigating political and war risks. Special attention is given to Poland's role in Ukraine's post-war reconstruction and the impact of integration reforms on investment conditions. In conclusion, the article synthesizes the main findings and proposes both policy and practical recommendations for policymakers and investors with the aim of strengthening mutually beneficial and sustainable investment cooperation.

1 Significance of the Investment Legal Framework

Current legislation governing investment activities is significantly influenced by the globalization of the world economy, which brings about the interconnection of national economies through multinational corporations, joint ventures, purchases of securities issued by foreign entities, technology transfers, and so on. As a result, the regulatory landscape for investment is characterized by the complex interaction and overlap of two levels of regulation - national and international.

International investment treaties are a key legal instrument for regulating relations between a state and a foreign investor. Their distinctive feature lies in the fact that they are not traditional bilateral treaties with reciprocal rights and obligations, but rather a regime based on the complementarity of interests: the host state assumes certain legal obligations that often limit its sovereign regulatory authority, while the investor receives guarantees of stability and protection against unlawful interference by state authorities. (Dolzer & Schreuer, 2012).

2 Polish Investment Legal System

On March 21, 2014, the Association Agreement was signed between the EU and Ukraine, serving as the legal framework governing relations between EU member states and Ukraine. The political section of the Agreement was signed and has been provisionally applied since November 2014. The economic part of the Association Agreement between the EU and Ukraine (the Deep and Comprehensive Free Trade Area, or DCFTA), which regulates trade relations between the EU and Ukraine, was signed on June 27, 2014, and provisionally entered into force on January 1, 2016. The Association Agreement as a whole entered into full force and effect on September 1, 2017 (Ministerstvo hospodárstva Slovenskej republiky). This agreement simplifies trade by streamlining customs procedures and gradually aligning Ukrainian laws, standards, and processes with EU legislation, rules, and procedures (European Commission).

Since the Republic of Poland is a member of the European Union, Polish-Ukrainian investment relations are governed by the Association Agreement (DCFTA), which guarantees Polish investors access to the Ukrainian market for goods and services, favorable conditions for establishing businesses, and the principle of national treatment. The Agreement also includes commitments regarding investment-related transfers, such as the repatriation of profits and capital, with exceptions for monetary stability. Although the Association Agreement increases legal certainty by aligning Ukrainian law with EU rules, it does not contain a comprehensive expropriation clause with compensation as found in bilateral investment treaties, nor does it include an automatic investor-state arbitration mechanism, which may be subject to further revisions. Dispute resolution mechanisms focus on intergovernmental negotiations through agreed bodies. For Polish investors, this means better market access and greater legal predictability, though it is recommended to consider additional contractual safeguards where necessary (European Union, 2025).

3 Ukrainian Investment Legal System

The Ukrainian legal system is based on codified civil law, the provisions of which are adopted by the Ukrainian Parliament. Jurisdiction over disputes concerning foreign investment contracts is exercised by specialized commercial courts. Under the Foreign Investment Law, investor-state disputes are to be heard before Ukrainian courts unless otherwise provided by international treaties.

The 1991 Law on Investment Activity established the basic principles of investment. Subsequently, additional regulations were adopted to facilitate foreign investment, including the 2021 Law on State Support for Significant Investments and its subsequent amendments, which provide tax and customs benefits to major investors. Due to conflicts arising from overlapping regulations and persistent corruption, foreign investors face difficulties in enforcing their rights in Ukrainian courts and often opt for international arbitration.

Ukraine prioritizes attracting investment; in 2020, the Ukrainian law “On State Support for Investment Projects with Significant Investments in Ukraine” was adopted, which offers financial, tax, and customs incentives, access to land and an investment manager for projects exceeding the original threshold of 20 million EUR (a 2023 amendment lowered the threshold to 12 million EUR and reduced the required number of new jobs from 80 to 50), with the possibility of compensation for infrastructure costs and pre-investment expenses up to 25%. The measures

support priorities such as the manufacturing industry, extraction for further processing, transportation, logistics, research and development, healthcare, waste management, tourism, and electronic communications. UkraineInvest coordinates projects, and agreements allow for international arbitration in the event of a violation of property rights (U.S. Department of State, 2025).

The National Bank of Ukraine has approved amendments to the Regulation on Depository and Clearing Activities (Resolution No. 90 of July 19, 2024, effective July 24, 2024), which expand the range of clients and allow the NBU to open and manage bearer securities accounts for foreign financial institutions and accounts for foreign depositories. The aim of these changes is to enable foreign investors to have direct access to tradable debt instruments for Ukraine's recovery, including municipal and infrastructure bonds issued by the International Financial Institution, and to link domestic markets with international markets, including a potential connection with Clearstream. These measures are part of the implementation of the Memorandum on Economic and Financial Policies with the International Monetary Fund. The National Bank of Ukraine is cooperating with the National Securities and Stock Market Commission (National Bank of Ukraine. (2024).

4 Legal Freamework for Investment Cooperation between Poland and Ukraine

In 1993, the Republic of Poland and Ukraine signed the Agreement between the Government of Ukraine and the Government of the Republic of Poland on the Reciprocal Promotion and Protection of Investments, which aims to protect and promote foreign investment between the two countries. The main objective of the treaty is to strengthen legal certainty and the protection of foreign investments between the contracting parties, to promote the movement of capital, technology, and expertise, and to ensure predictable conditions for long-term projects.

The main aspects of this treaty include:

1. Investor protection – ensures that investors from one country are entitled to fair and equitable treatment in the other country, thereby providing protection against discrimination and unfair treatment.

2. Protection against expropriation - stipulates that if an investment is expropriated, it should be done only in accordance with the law and with adequate compensation, thereby ensuring the protection of investors' rights.

3. Dispute resolution - includes mechanisms for resolving disputes between investors and states. Should conflicts arise, they will be resolved fairly and in accordance with agreed-upon rules.

4. Investment promotion - to promote the flow of foreign investment into both countries, thereby contributing to economic development and increased competitiveness.

5. Access to Information and Transparency – promotes transparency in investment relations and establishes a legal framework that facilitates the provision of information on investment practices.

Overall, the agreement provides a balanced framework for investment protection, taking into account the need for pre-arbitration mechanisms to mitigate conflicts between public and private interests (Investment Policy Hub, UNCTAD, 1993).

Protecting international investors against political risk plays a crucial role, and political risk insurance (PRI) is essential for foreign direct investment. Most insurance is provided by state-owned insurers, making investment insurance an effective tool for achieving various public policy objectives. Political risk insurance, which includes war insurance covering damages caused by armed conflicts, was of crucial importance in supporting Western countries against Russian aggression in Ukraine. This type of insurance also fulfills an important geopolitical function.

Investment insurance, known as an investment guarantee, protects investors against political risk abroad. The investor pays a premium of 0.5–3% of the investment's book value and is entitled to compensation in the event of political risk. This insurance also serves as a policy tool in the areas of development finance, export promotion, and commercial diplomacy. State-sponsored political risk insurance functions as a subsidy for capital exports, as public providers typically charge less than the market would require to cover risks that the private sector would not insure. In this way, they support various public policy objectives, such as:

- Financing development, which supports economic growth in less developed countries alongside traditional development aid.
- Promoting capital exports, helping domestic firms expand into global markets, thereby strengthening the domestic economy.
- Economic statecraft, which in this case aligns with the foreign and security policy objectives of the home country, including climate change mitigation and the diversification of supply chains.

Investments are not attractive in a war zone, which is why Ukraine's First Deputy Prime Minister, Yulia Svyrydenko, sought support from like-minded countries to provide insurance against war risks. In May 2023, G7 leaders expressed political support for PRI to stimulate investment in Ukraine. The subsequent conference on Ukraine's recovery in June 2023 launched a framework for war risk insurance, with the aim of mobilizing private investment through PRI. All G7 countries except Canada offer war risk insurance to Ukraine through their national PRI programs, with this process complemented by regional organizations such as the EBRD and multilateral institutions including MIGA, and with programs tailored to the Ukrainian context (Alschner, 2025).

In June 2024, the Export Credit Insurance Corporation, a.s. (KUKE), in cooperation with the Multilateral Investment Guarantee Agency (MIGA), a member of the World Bank Group, signed an agreement in Berlin during a conference on Ukraine's reconstruction regarding cooperation in third markets and support for investments by Polish companies. Under the agreement, a Polish company's manufacturing complex in Ukraine was insured. This is the first such transaction since the start of the war with Russia.

Political risk insurance provided by MIGA and underwritten by KUKE covers potential losses caused by political events, including armed conflicts. The value of the Polish production plant in Ukraine covered by the insurance exceeded 45 million USD in 2024.

According to Katarzyna Kowalska, Vice President of KUKE, "This is a landmark transaction for KUKE. It is the first insurance of a Polish investment in Ukraine since the start of the war and the first such contractual arrangement concluded for the benefit of an investor, not a bank. It is also the first insurance policy concluded with a multilateral financial institution, not with another export credit agency." (Gazeta Ubezpieczeniowa, 2024).

In 2025, the Council of Ministers adopted a regulation allowing insurance coverage for shipments by Polish carriers to Ukraine. This regulation addresses the needs of the Polish transport industry, as carriers had limited access to cargo insurance due to insurers withdrawing these products as a result of military risks.

The new regulation allows insurance companies to once again offer policies for transport to and from Ukraine. The reinsurance program approved by the European Commission provides that KUKE will assume 80% of the risk, including extraordinary risks such as war, civil unrest, terrorism, and confiscation of property. The coverage is valid until the end of June 2028 and applies to road and rail transport, with a maximum reinsurance value of 6.4 billion PLN. For carriers, this means they will be able to insure cargo and vehicles in Ukraine, significantly reducing their financial risk and enabling a safer return to the market. The solution was developed in cooperation with KUKE, representatives of the transport industry, and government agencies, contributing

to the stabilization of the transport sector (Ministry of Development and Technology, 2025). In 2025, KUKE insured approximately 2.5 billion USD in turnover since the start of the war (Polska Agencja Inwestycji i Handlu S.A.).

Despite the war with Russia, investors remain active in Ukraine, as the country boasts a large consumer market, a skilled and cost-competitive workforce, and abundant natural resources. The government continues to implement economic and administrative reforms aimed at improving the business environment and harmonizing legislation with EU standards, which provides investors with access to the single European market. Ukraine's anticipated recovery is expected to attract hundreds of billions of dollars from governments, international financial institutions, and the private sector, creating significant investment opportunities (U.S. Department of State, 2025).

5 Poland–Ukraine Investment Cooperation

Following the Russian invasion in 2022, Ukraine's foreign trade declined dramatically, driven by losses in key export sectors such as metallurgy and agriculture, as well as an outflow of investment. Consequently, exports were redirected from the Russian market to European markets, and transport routes shifted from sea to road and rail. For the first time in 30 years, Poland became Ukraine's largest trading partner.

Investment cooperation plays an important role, but it is dominated by an imbalance in favor of Polish investments in Ukraine. Ukraine's foreign direct investment in Poland accounts for less than 2% of the volume of Polish FDI in Ukraine. This dominance of Polish investment is likely to persist in the coming years given the sharp decline in Ukraine's GDP (by 29% in 2022) and the National Bank of Ukraine's tight monetary policy, including regulations on the foreign exchange market and the functioning of the financial system.

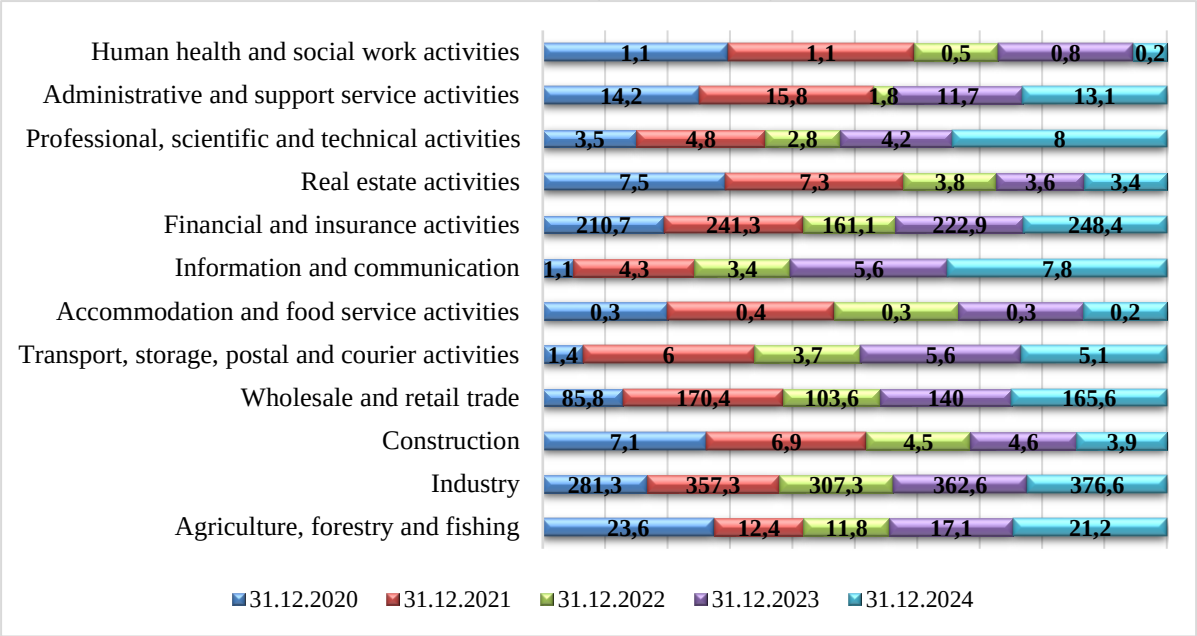
Assessing the true scale of Ukrainian investment in Poland is complicated by the difficulty of identifying the origin of capital from companies registered in tax havens that operate in Poland as foreign entities rather than as Ukrainian ones. Nevertheless, it is clear that the war has slowed the inflow of foreign investment into Ukraine. According to the National Bank of Ukraine, investment inflows in 2022 amounted to 557 million USD, representing a 7.6% decrease compared to 2021. Polish investment in Ukraine fell from 1.2 billion USD in 2021 to 97 million USD in 2022, placing Poland in 8th place among the largest investors.

Increased investor interest is focused on the finance and insurance sector, information and communication technologies, agricultural product processing, and logistics. The outlook for Polish investment in Ukraine is favorable: despite the war, the share of reinvestments from existing FDI is growing, indicating that capital investors remain confident and expect the conflict to end. More than 600 companies continue to operate in Ukraine despite the war. The interest of Polish companies in purchasing shares and stakes in companies involved in post-war reconstruction suggests a rapid increase in Polish FDI following the end of the conflict (potentially up to nearly 30 times the current level). Another important factor is Ukraine's granting of EU candidate country status on June 23, 2022, which accelerates the need for key reforms in line with European standards to achieve integration into the EU's internal market (Pietraś, Baluk, & Perepętycia, (2024).

According to data from the National Bank of Ukraine, the Republic of Poland invested a total of 853.5 million USD in Ukraine in 2024, an increase of 215.9 USD million compared to 2020. Figure 1 shows the economic sectors of Ukraine in which the Republic of Poland has invested the most funds over the past five years. The chart shows that in 2024, the largest investment was made in the industrial sector, amounting to 376.6 million USD; compared to 2020, this figure increased by 95.3 million USD and accounts for 44.12% of all investments. The second most important sector is finance and insurance; in 2024, investments in this sector increased by 37.7 million USD compared to 2020. Another interesting sector for investment is wholesale

and retail trade; in 2024, compared to 2020, the amount of investment increased by 79.8 million USD.

Figure 1: Foreign Direct Investment from Poland to Ukraine, equity participation instruments (million USD)



Source: Own compilation based on NBU Statistics. Sectoral external statistics. https://bank.gov.ua/ua/statistic/sector-external#5

According to data from the National Bank of Ukraine, FDI inflows from Ukraine to Poland are not published in order to ensure compliance with Ukraine's Law "On Official Statistics" regarding the confidentiality of statistical information. Table 1 shows only the data reported by the NBU.

Table 1: Foreign Direct Investment from Ukraine to Poland, equity participation instruments (million USD)

Sector/Date	31.12.2020	31.12.2021	31.12.2022	31.12.2023	31.12.2024
Industry	2,1	2,6	1,9	1,3	1,2
Wholesale and retail trade	2,0	*[1]	*	*	*
Transport, storage, postal and courier activities	3,1	3	2,9	3,2	3,1
Information and communication	-	-	*	*	*
Financial and insurance activities	*	*	*	*	*
Real estate activities	*	*	*	*	-
Professional, scientific and technical activities	*	*	*	*	*
Total	**7,5**	**6,0**	**5,0**	**11,4**	**4,5**

Source: Own compilation based on NBU Statistics. Sectoral external statistics. https://bank.gov.ua/ua/statistic/sector-external#5

[1] *The data are not disclosed in order to ensure compliance with the Law of Ukraine „On Official Statistics" regarding the confidentiality of statistical information.

On December 16, 2025, Bank Gospodarstwa Krajowego (BGK) and Kredobank (PKO Bank Polski Group) signed an agreement on a credit risk-sharing and compensation mechanism, under which Kredobank will receive 42 million PLN financed from the Financial Instrument for Development Cooperation (FIDC) - this is the first operation fully covered by domestic FIDC funds. The aim is to facilitate financing for micro, small, and medium-sized enterprises in Ukraine and to support their operations and development in the context of reconstruction. The mechanism covers up to 80% of losses from non-performing loans (the remaining 20% remains with Kredobank). The program is planned for 10 years with a short-term (2 years) and medium-term (5 years) loan horizon, and BGK estimates that in the initial period it will enable the provision of loans exceeding 50 million PLN. The agreement strengthens Kredobanka's position as a financial bridge between Poland and Ukraine and supports Polish-Ukrainian economic cooperation. At the same time, BGK's new mandate for development cooperation will enable the creation of additional financial instruments and strengthen Poland's "soft power." Previous risk-sharing programs implemented under an agreement with the European Commission (2023) facilitated loans for 233 clients totaling approximately 53 million EUR and helped preserve approximately 13,000 jobs. The assistance was primarily focused on businesses in safer areas of Ukraine (Bank.pl., 2025).

6 Poland's Participation in the Reconstruction of Ukraine

Russian aggression has caused Ukraine extensive losses in terms of human lives and economic damage; the cost of reconstruction is estimated at a minimum of 900 billion USD, with the greatest damage occurring in industry, infrastructure, and business. Reconstruction will be long and costly and requires international support. The Ministry of Development and Technology, together with the Polish Investment and Trade Agency (PAIH), is considering the involvement of Polish companies in post-war reconstruction and is calling on them to cooperate in preparing projects.

On June 9, 2022, PAIH launched a recruitment drive for Polish companies to create a database of interested parties, followed by consultations with industry and the joint development of an aid plan tailored to the needs of the Ukrainian economy. The priority is the reconstruction of Ukraine as a modern, environmentally friendly, and technologically advanced country integrated with the EU, coupled with reforms aligned with EU standards in the areas of climate policy, digitalization, and the rule of law, including the fight against corruption.

PAIH provides training and coordination for groups of Polish companies, organizes events, and offers support through its headquarters in Warsaw and offices in Kyiv and Lviv. Trade cooperation offices support Polish and Ukrainian entrepreneurs, assist with the relocation of Ukrainian companies to Poland, help find partners, and organize informational events. PAIH has established a team to monitor risks and mitigate the impacts of the war; since the program's inception, it has received more than 3,000 applications and, as of March 1, 2022, has been providing Ukrainian companies with free coworking spaces in Warsaw, along with support in Ukrainian. The PAIH website contains up-to-date information on regulations and restrictions regarding trade with Ukraine (Polska Agencja Inwestycji i Handlu S.A.).

Given the material damage caused by military operations, Ukraine's recovery will be impossible without incentives for investors. In early April 2022, a group of Ukrainian, European, and American economists from the Centre for Economic Policy Research prepared a Blueprint for Ukraine's Recovery, which divides the recovery into three phases: immediate restoration of basic civilian infrastructure (similar to measures taken in the event of natural disasters), restoration of critical and service infrastructure (including public services), and laying the groundwork for the country's future development and modernization (Drabczuk, 2022). The main challenge, aside from operational issues caused by ongoing fighting and shelling, remains the question of funding for reconstruction. In the short term, investors can contribute

through the UNITED24 platform, which collects funds for immediate aid from international financial and humanitarian organizations, multinational corporations, and private donors. Long-term support should consist of purchasing Ukraine's war bonds and making direct investments.

Poland has joined the G7 Donor Coordination Platform, which has been preparing a post-war reconstruction plan for Ukraine. In addition to the G7 countries, financial institutions such as the European Bank for Reconstruction and Development, the European Investment Fund, and the World Bank also participated in the platform's work. The plan is intended to include not only specific reconstruction measures but also the allocation of funds and specific financial support instruments.

The reconstruction project will likely be implemented through public procurement contracts announced by international institutions as part of country-specific programs and through public tenders issued directly by Ukrainian authorities. The participation of Polish companies is in the interest of both countries; Poland has the opportunity to become a logistics and industrial hub for Ukraine (similar to its role as a hub for humanitarian aid during the war). The first intergovernmental consultations between Poland and Ukraine are already underway regarding the construction of a highway from the Krakowiec border crossing through Lviv to Rivne and joint investments in the defense sector (e.g., joint ammunition factories on Polish territory).

Poland and Ukraine are preparing to implement ambitious investment plans following the end of the war and are working to remove barriers to business for Polish entities in Ukraine and Ukrainian entities in Poland. During a meeting between the Deputy Minister of Funds and Regional Policy, appointed by the Polish government for Polish-Ukrainian cooperation (Jadwiga Emilewicz), and the Deputy Minister of Development, Construction, Territorial Policy, and Infrastructure (Oleksandra Azarkina) at the office of the Polish Investment and Trade Agency in Kyiv on October 26, October 2023, an agreement was signed on the preparation of a White Paper on problematic issues in economic relations reported by Polish and Ukrainian entrepreneurs operating on both sides of the border, and on the methods and deadlines for resolving them (e.g., recognition of electronic signatures, model contracts for tenders, VAT refunds, simplification of customs clearance, etc.).

More than 2,000 Polish companies operating in the construction, energy, agriculture and food, pharmaceutical, and IT sectors have registered in the registry of companies interested in Ukraine's reconstruction. To ensure the safe operation of the private sector in the Ukrainian market, the Polish Export Credit Insurance Corporation (KUKE)—with the support of the Ministry of Development and Technology—has resumed offering short-term receivables insurance for export contracts with Ukrainian partners as of June 2022.

Poland and Ukraine possess significant socio-economic potential and share strategic interests in the Central European region, which is particularly evident in crisis situations concerning regional security (Pietraś, Baluk, & Perepętycia, 2024).

Conclusion

Investment cooperation between Poland and Ukraine represents a significant opportunity to strengthen regional stability, support post-war reconstruction, and develop mutual economic ties. An analysis of legal frameworks, institutional instruments, and case studies shows that existing mechanisms (bilateral agreements, risk-sharing programs, political risk insurance, FIDC) provide a functional foundation, but also require supplementation with additional guarantees, greater financial accessibility, and more effective dispute resolution.

Priority sectors - industry, financial services, logistics, agriculture, and energy - offer concrete investment opportunities that can be transformed into sustainable projects through coordinated government support and private-sector partnerships. Key measures remain those

aimed at mitigating political and war risks, strengthening legal certainty, and advancing reforms toward EU standards, which will boost investor confidence.

At the practical level, it is necessary to expand project preparation tools, consolidate financial mechanisms for providing long-term capital, and support both bilateral and multilateral risk-sharing initiatives. Through a targeted combination of policies, financial instruments, and institutional cooperation, Polish-Ukrainian investment cooperation can contribute to a faster, more effective, and inclusive recovery of Ukraine while strengthening economic ties in the Central European region.

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POLITICAL CULTURE AND POST-SOVIET TRANSFORMATIONS: A COMPARATIVE ANALYSIS OF SOCIETAL ORIENTATIONS AND THE LEVEL OF LIBERAL DEMOCRACY[1]

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Abstract: The aim of this article is to identify the relationship between selected dimensions of political culture and the level of liberal democracy in the post-Soviet space, using the cases of Belarus, Estonia, Georgia, Latvia, Lithuania, and Russia. The theoretical framework is based on classical and contemporary concepts of political culture, as well as studies of trust in post-communist societies. The article combines a comparative analysis of post-Soviet transformations in the mid-1990s with a statistical and correlation analysis of selected indicators of political culture and the Liberal Democracy Index. The results demonstrate that individual dimensions of political culture relate differently to the level of liberal democracy. While interpersonal trust does not exhibit a consistent relationship with the level of liberal democracy, trust in parliament appears to be a significantly more sensitive indicator of differences among post-Soviet regimes. The article thus contributes to a more precise application of the concept of political culture in the study of post-Soviet transformations.
Keywords: political culture; post-Soviet transformations; liberal democracy; trust; post-Soviet space.
JEL: D72, Z13, P30, D70

Introduction

The post-Soviet space represents one of the most prominent examples of uneven political development following the collapse of a common institutional framework. Although the former Soviet republics entered the period of transformation with a shared experience of a state-socialist regime, centralized governance, and formally similar institutional foundations, their subsequent trajectories diverged significantly during the 1990s. In some cases, political change was accompanied by the gradual consolidation of democratic institutions and an orientation toward Western integration structures, whereas in others it led to the strengthening of presidential power verticals, limited political competition, or the emergence of hybrid regimes. This heterogeneity suggests that post-Soviet transformations cannot be satisfactorily explained solely through the formal introduction of new political institutions.

For this reason, the analysis of political culture gains particular significance as a factor that makes it possible to examine society's relationship to power, political institutions, and democratic principles. However, in this context, political culture cannot be understood as a uniform or static set of values that automatically determines the outcome of political transformation. The experience of the post-Soviet space indicates that individual societal orientations may develop unevenly: general support for democracy does not necessarily imply trust in specific political institutions,

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and higher levels of interpersonal trust are not necessarily associated with a higher level of liberal democracy. Therefore, political culture should be examined in a differentiated manner, not as a single general indicator, but rather as a set of multiple dimensions that may have different relationships with the institutional development of a state.

The aim of this article is to identify the relationship between selected dimensions of political culture and the level of liberal democracy in the post-Soviet space, using the cases of Belarus, Estonia, Georgia, Latvia, Lithuania, and Russia. Particular attention is devoted to interpersonal trust, trust in parliament, and support for democracy as a political system. These indicators make it possible to distinguish the horizontal social dimension of political culture, its institutional dimension, and the normative relationship to democracy. Research designed in this manner allows for an assessment of whether differences among post-Soviet states are reflected equally across all dimensions of political culture, or whether they are more strongly associated with only certain types of societal orientations.

The study is based on a combination of theoretical, comparative, and quantitative analysis. The theoretical section draws upon classical and contemporary approaches to political culture, as well as studies of trust in post-communist societies. The comparative section outlines the political context of post-Soviet transformations in the mid-1990s, a period during which distinct models of political development had already begun to emerge in the countries under examination. The quantitative section subsequently employs statistical and correlation analysis of selected indicators of political culture in relation to the Liberal Democracy Index. The research question addressed in this article is as follows: How do individual dimensions of political culture relate to the level of liberal democracy in selected post-Soviet states?

1 Political Culture as an Analytical Framework for the Study of Political Transformations

The problem of explaining differences in the trajectories of post-Soviet transformations remains one of the central issues in comparative political science. Although most states in the region implemented similar institutional transformations at the beginning of the 1990s, including the introduction of multiparty systems, competitive elections, and new constitutional frameworks, their subsequent political development proved to be highly heterogeneous. This reality challenged the explanatory potential of the classical transitological paradigm, within which democratization was understood as a relatively linear and universal process. Criticism of this approach has emphasized its limitations in explaining the stability of hybrid regimes, the heterogeneity of institutional outcomes, and the role of factors that extend beyond the framework of formal political institutions (Carothers, 2002; McFaul, 2002).

Under these conditions, scholarly attention has increasingly shifted toward factors capable of explaining variations in political outcomes under similar institutional conditions. One such factor is political culture, which makes it possible to account for stable attitudes, values, and patterns of political perception that shape both the behavior of political actors and society's relationship with institutions. In the classical interpretation developed by Almond and Verba, political culture is defined as the set of individual orientations toward the political system, encompassing cognitive, affective, and evaluative components. Within this framework, the stability of democratic institutions is associated with the existence of a "civic culture" that combines participation, trust, and institutional loyalty (Almond and Verba, 1963).

However, the application of this model to post-socialist societies has revealed its limitations. In particular, the assumption that a specific set of democratic values precedes institutional consolidation corresponds only weakly to the empirical experience of the region. As research demonstrates, political culture under conditions of transformation is not a static set of attitudes but is instead shaped through political competition, institutional change, and broader social transformations. Ekiert and Kubik emphasize that values and orientations do not precede

political processes but develop within them, making political culture a dynamic and context-dependent category (Ekiert and Kubik, 1998).

An additional dimension to the analysis of political culture is provided by the modernization approach developed by Inglehart and Welzel, which links democratization to long-term value change. According to this theoretical perspective, economic development promotes the spread of self-expression values, which subsequently support democratic institutions. Nevertheless, the post-Soviet experience demonstrates that processes of modernization may be accompanied not by a linear expansion of these values but rather by their fragmentation and combination with enduring paternalistic orientations. This points to the existence of mixed value configurations in which democratic and non-democratic elements of political culture coexist (Inglehart and Welzel, 2005).

A significant contribution to understanding political culture is also provided by analyses of trust and legitimacy. Research conducted by Mishler and Rose demonstrates that levels of trust in political institutions in post-communist countries are shaped not only by historical and cultural legacies but also by evaluations of the contemporary performance of institutions. This suggests that political culture cannot be reduced solely to the "legacy of the past"; rather, it represents the outcome of an interaction between stable attitudes and current institutional experience (Mishler and Rose, 2001).

Modern understandings of political culture therefore extend beyond its interpretation as a fixed set of values. Political culture is increasingly viewed as a multidimensional and evolving system of attitudes encompassing trust in institutions, orientations toward power, participatory attitudes, and perceptions of the legitimacy of the political order. Such an approach makes it possible to connect the cultural characteristics of society with measurable indicators used in empirical research, including survey data, trust indices, and indicators of value orientations.

Within the framework of this study, political culture is understood precisely in this broader sense—as a set of attitudes and values that can be operationalized and compared with institutional and political outcomes. This makes it possible to employ political culture not only as a theoretical category but also as an analytical variable capable of explaining differences in the trajectories of post-Soviet transformations.

2 The Political Context of Post-Soviet Transformations in the Mid-1990s

The mid-1990s marked a period in the post-Soviet space when the initial momentum generated by the collapse of the Soviet Union gave way to a phase of institutional consolidation of newly established political orders. By this time, it had become evident that the common starting point after 1991 had not produced a unified developmental trajectory. On the contrary, the former Soviet republics began to follow markedly different paths, ranging from rapid liberal-institutional restructuring and orientation toward Western structures to the concentration of presidential power, the slowing of reforms, or the restoration of statehood under conditions of internal conflict. For Belarus, Estonia, Georgia, Latvia, Lithuania, and Russia, the mid-1990s became a critical turning point during which not only contemporary political regimes were shaped but also longer-term patterns of interaction between the state, society, and foreign policy orientation.

The most consistent commitment to institutional and foreign-policy reorientation was demonstrated by the Baltic states. Estonia, Latvia, and Lithuania had already begun, in the first half of the 1990s, to construct political systems based on the restoration of the legal continuity of their pre-war states, the establishment of new democratic institutions, and a clear distancing from the post-Soviet center. In Estonia, an important step was the adoption of a new constitution in June 1992 and the holding of elections later that same year. One of the key political issues remained the status of residents who had settled in the republic during the Soviet period: access to citizenship was linked to a process of naturalization and knowledge of the Estonian language, while relations with Russia were further complicated by the presence of Russian troops, which

were not withdrawn until August 1994. By the end of the decade, Estonia was already characterized as a stable democracy, making the middle of the 1990s a period of successful institutional consolidation (Britannica, 2024a).

In Latvia, political transformation was likewise based on the principle of legal continuity but was accompanied by more intense disputes concerning political community and citizenship. The first post-Soviet elections in 1993 were held under a principle according to which voting rights were granted to pre-war citizens and their descendants; shortly thereafter, the Constitution of 1922 was restored. At the same time, relations with the Russian-speaking population, rules of naturalization, and the pace of privatization became central political issues. The Latvian case thus illustrates how democratization and nation-building often developed simultaneously and influenced one another in the post-Soviet context. An additional source of instability emerged in the form of the banking crisis of 1995, which severely affected the country's financial system and demonstrated that institutional development in the Baltic region was neither linear nor conflict-free (Norkus, 2023; Britannica, 2024b).

Lithuania also experienced a combination of economic difficulties, political competition, and accelerating Western integration during the mid-1990s. In the first half of the decade, the Lithuanian economy remained heavily dependent on Russia and faced recessionary pressures, while internal disagreements, allegations of corruption, and economic difficulties reduced public support for the governing forces. The 1996 elections resulted in a change of government, after which the new cabinet pursued further economic liberalization and sought to attract foreign capital. At the same time, the mid-1990s became a period of institutional consolidation of Lithuania's European orientation: in June 1995, the country signed the Europe Agreement with the European Union, and in December of the same year it submitted its official application for membership (Norkus, 2023; Britannica, 2024c).

Whereas for the Baltic states the mid-1990s primarily represented a period of institutional consolidation of a new political course, for Belarus this period marked a turn toward a model of concentrated presidential power and a slower departure from Soviet political and economic practices. Following the adoption of a new constitution in March 1994, the institution of the presidency was established, and in July 1994 Alexander Lukashenko was elected to the office. During the following years, he gradually strengthened his control over the political system, and the 1996 referendum, whose legitimacy was widely contested, significantly expanded presidential powers, enabled the extension of the presidential term, and strengthened the president's ability to govern through decrees. At the same time, Belarus moved toward a market economy much more slowly than many other post-Soviet states, making it an important example of an alternative model of transformation—not a liberal-pluralist model, but rather a state-centered and centralized one closely linked to Russia (Abramova & Vilisov, 2020; Britannica, 2024d).

The Russian case occupied a distinctive position during the mid-1990s, as Russia was both the core of the dissolved Soviet Union and a separate arena of intense conflict over the rules of the new political order. Following the collapse of the USSR, the country continued to operate within the framework of the Soviet constitutional structure, which provided no clear answer regarding the balance of power between the executive and legislative branches. This contradiction culminated in the constitutional crisis of 1993, when the conflict between Boris Yeltsin and the parliament escalated into an open confrontation and ended with the adoption of a new constitution in December 1993. The constitution granted the president exceptionally broad powers, including, under certain conditions, the authority to issue decrees with the force of law. Politically, the middle of the decade was characterized by the formal preservation of electoral competition but also by a growing gap between reformist rhetoric and public perceptions of the outcomes of transformation. Mass privatization in 1994–1995 contributed to the emergence of oligarchic groups, while declining living standards, rising crime, and the deterioration of social services deepened public dissatisfaction. Yeltsin's re-election in 1996 did not resolve these contradictions;

rather, it reinforced a model in which political centralization coexisted with institutional instability and a weak state capacity to perform basic functions (Dabrowski, 2023; Britannica, 2024e).

Against this backdrop, Georgia represented yet another distinct trajectory of post-Soviet transformation. In this case, the key context of the mid-1990s was not only the construction of new institutions but also the restoration of basic state governability following internal collapse. After declaring independence and electing Zviad Gamsakhurdia, the country descended into civil conflict by the end of 1991; in January 1992, Gamsakhurdia was overthrown, and power passed to the State Council headed by Eduard Shevardnadze. Under these circumstances, the primary task was not merely democratization but also the reintegration of the political space and the creation of a viable state. In 1992, the Constitution of 1921 was restored, and in 1995, after prolonged political disputes, a new constitution was adopted, establishing a strong presidency. Even in the middle of the decade, the armed forces were only gradually being unified, while rising crime and the weakening of civilian authority were closely linked to the consequences of the conflicts in Abkhazia and South Ossetia. Georgia's transformation during this period was therefore primarily a process of state-building under post-conflict conditions (Britannica, 2024f).

The mid-1990s in the post-Soviet space therefore cannot be understood as a uniform stage of either "transition to democracy" or "transition to the market" in any universal sense. By this time, at least three distinct models had already emerged. The first was represented by the Baltic states, where political reforms were closely linked to institutional consolidation and Western integration. The second was evident in Belarus and, to a considerable extent, in Russia, where the construction of new statehood was accompanied by the strengthening of presidential power, albeit in different political and economic forms. The third model was characteristic of Georgia, where post-Soviet transformation was inseparable from the challenges of post-conflict reconstruction and the basic strengthening of state institutions. This heterogeneity of political contexts is essential for the subsequent analysis, as it demonstrates that the transformations of the mid-1990s did not occur within an abstract "post-Soviet space" but rather within countries characterized by different historical legacies, distinct models of political legitimacy, and divergent visions of political development.

3 Statistical and Correlation Analysis

The quantitative component of this study is important not as a formal supplement to the qualitative analysis but as a means of assessing the extent to which differences discussed at the level of political culture are reflected in comparable cross-national indicators. In this sense, statistical analysis does not replace interpretation; rather, it disciplines it by making it possible to identify which elements of political culture are genuinely associated with institutional differences among countries and which are not. This is particularly important in the post-Soviet context, where there has traditionally been a strong tendency to treat political culture as a single explanatory factor, while empirically its different dimensions may behave in fundamentally different ways.

The final dataset includes Belarus, Estonia, Georgia, Latvia, Lithuania, and Russia. The selection of these countries is not arbitrary but is determined by the availability of comparable data for all variables employed in the analysis. On the one hand, this limits the scope of generalization; on the other hand, it makes it possible to work with a unified dataset in which both indicators of mass attitudes and the institutional indicator of regime type are directly comparable. Moreover, the configuration of countries is not analytically neutral: it includes cases with relatively high levels of liberal democracy as well as cases with considerably lower scores, allowing not only for the description of individual values but also for the comparison of developmental trajectories.

The structure of the selected variables demonstrates that the study does not seek to measure "political culture as a whole" but rather three distinct dimensions of it. The first reflects

the horizontal dimension—the level of basic trust in other people. The second corresponds to the vertical institutional dimension and captures attitudes toward parliament as a key institution of representative politics. The third concerns the normative dimension and reflects the extent to which democracy as a political system is positively evaluated. This distinction is methodologically important because it avoids mechanically combining different attitudes into a single aggregated index. In other words, the analysis proceeds from the assumption that trust in people, trust in institutions, and support for democracy are related but not identical phenomena.

The indicator of interpersonal trust is based on the proportion of respondents who agree with the statement that "most people can be trusted." In the final dataset, the indicator is presented as a proportion: 0.230 for Belarus, 0.211 for Estonia, 0.177 for Georgia, 0.239 for Latvia, 0.213 for Lithuania, and 0.232 for Russia. Even at this stage, it is evident that cross-national variation is relatively limited. Georgia records the lowest value and Latvia the highest, yet the overall range remains comparatively narrow. This observation is important not in itself but in comparison with the subsequent variables: in this sample, horizontal trust does not create as pronounced a contrast among countries as the institutional indicator of liberal democracy.

The choice of this indicator appears justified from both substantive and comparative-analytical perspectives. Within studies of political culture, interpersonal trust has traditionally been regarded as one of the fundamental elements of social cooperation. It does not refer to evaluations of political authority as such but rather to broader perceptions of the social environment, expectations regarding the behavior of others, and willingness to act under conditions of relative predictability. Including this variable therefore makes it possible to assess whether higher levels of "social trust" are associated with higher levels of liberal-democratic development. Importantly, the analysis does not assume such a relationship in advance; the variable is introduced not to illustrate an established proposition but to test whether it holds within the selected sample.

The indicator of trust in parliament is constructed differently. Rather than relying on the proportion of a single response category, it uses a weighted average based on a four-point trust scale, where the categories "A great deal," "Quite a lot," "Not very much," and "None at all" are assigned weights from 4 to 1. This approach captures not only the direction of evaluation but also its intensity. This is important because a simple aggregation of positive responses would obscure differences between strong and moderate trust while failing to fully reflect the structure of negative evaluations. The weighted average, by contrast, captures the overall configuration of attitudes toward parliament as an institution. In the final dataset, the values are 2.049 for Belarus, 2.315 for Estonia, 2.184 for Georgia, 1.989 for Latvia, 2.170 for Lithuania, and 1.921 for Russia.

This variable is considerably closer to the institutional dimension of political culture. Whereas interpersonal trust describes the horizontal social environment, trust in parliament concerns perceptions of one of the central mechanisms of representative democracy. For this reason, it is of particular importance for the present study. In the post-Soviet context, attitudes toward parliament often prove to be a more sensitive indicator of regime characteristics than abstract declarations of support for democracy. Trust in parliament captures not only the formal recognition of the institution's existence but also perceptions of its legitimacy, effectiveness, and significance within the political system. The distributions themselves suggest that cross-national differences are more pronounced here than in the case of interpersonal trust, indicating that this variable may be more strongly associated with differences in the level of liberal democracy.

The indicator of support for democracy is constructed according to a similar weighted-average logic but refers not to a specific institution but rather to evaluations of democracy as a political system. The calculation incorporates the responses "Very good," "Fairly good," "Fairly bad," and "Very bad," weighted from 4 to 1. The resulting values are 3.123 for Belarus, 3.397 for Estonia, 3.507 for Georgia, 3.502 for Latvia, 3.246 for Lithuania, and 2.868 for Russia. These figures already allow for an important observation: in almost all cases, normative support for democracy is higher than trust in parliament. This suggests that a positive attitude toward

democracy as a political principle is not equivalent to trust in an existing institution of representation.

For this reason, the inclusion of this variable is not merely formal but substantively important. It allows for a distinction between two levels that are often conflated in studies of democratization: approval of democracy as a desirable model and evaluation of the specific institutional mechanisms through which democracy operates. In post-Soviet countries, this distinction is particularly significant. A society may express relatively high support for democracy as an ideal while simultaneously remaining skeptical of the institutions responsible for implementing it. In this respect, the variable of democracy support makes it possible to assess the strength of the relationship between the normative and institutional dimensions and to determine whether these two levels correspond to one another.

The dependent variable is the Liberal Democracy Index (LibDem). Its values within the sample are 0.30 for Belarus, 0.80 for Estonia, 0.40 for Georgia, 0.73 for Latvia, 0.75 for Lithuania, and 0.35 for Russia. Importantly, this indicator refers not to mass attitudes but to the institutional condition of the political regime. This makes it possible to compare societal orientations not only with one another but also with an external measure of the quality of liberal-democratic governance. In other words, the central question is not which countries are perceived by their populations as more or less democratic, but rather how differences in political-cultural orientations relate to differences in the level of liberal democracy as an institutional characteristic.

The method used to construct the variables also carries analytical significance. For interpersonal trust, the most direct possible indicator is employed—the proportion of responses expressing trust in other people. For trust in parliament and support for democracy, weighted averages are used, allowing the distribution of responses to be converted into comparable numerical values without losing gradations within the scale. This approach is preferable to a simplified division into “positive” and “negative” responses because it preserves distinctions between strong approval, moderate support, and strong rejection. At the same time, indeterminate responses are excluded from the calculations, making the resulting values more stable and less dependent on the proportion of respondents who avoided expressing a substantive opinion.

To assess the relationships between variables, Spearman’s rank-order correlation coefficient is employed. The choice of this method appears particularly appropriate in the present case. First, the analysis includes only six countries, resulting in a small number of observations. Second, the variables differ in their nature and measurement scales: one is expressed as proportions, two as weighted averages, and one as an index score. Under such conditions, rank-order correlation is methodologically more suitable than strictly parametric techniques because it compares not absolute distances between values but the relative ordering of countries according to each variable. For comparative cross-national analysis, this is particularly important: the key issue is not the precise interval between values but whether the ranking of countries according to one variable corresponds to their ranking according to another.

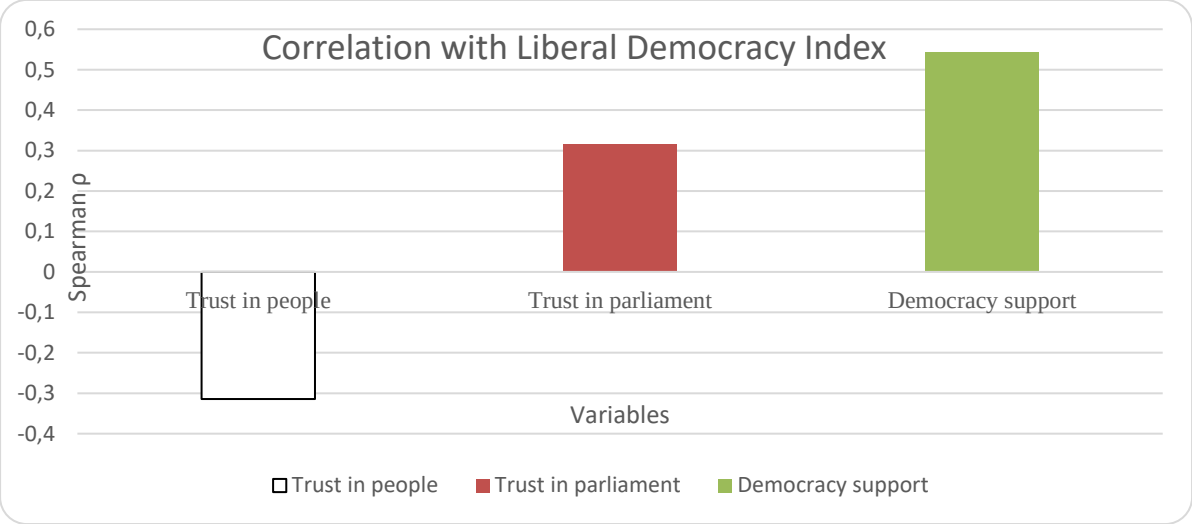
The results of the correlation analysis indicate that the three selected variables behave differently. Spearman’s coefficient equals –0.314 for Trust in People, 0.600 for Trust in Parliament, and 0.429 for Support for Democracy. This distribution alone demonstrates that political culture within the examined sample does not constitute a single explanatory block. Its various components relate to the level of liberal democracy in different ways, which represents the principal finding of the analysis. To facilitate comparison of these relationships, the results are visualized in the figure below.

The least expected finding concerns interpersonal trust. The negative coefficient does not imply that horizontal trust is “opposed” to democracy, nor does it provide any basis for causal conclusions. However, it clearly indicates something else: within the countries examined, higher levels of trust in other people do not coincide with higher values of the Liberal Democracy Index. Russia and Belarus, for example, display relatively high levels of interpersonal trust within the

sample while simultaneously recording low levels of liberal democracy. Estonia, by contrast, has the highest LibDem score but is not the leading country in terms of Trust in People. This suggests that generalized social trust within this set of cases does not reproduce the institutional differences observed among countries.

This finding is important precisely because it does not confirm the overly simplistic assumption that a "more trusting society" is automatically associated with a "more democratic regime." For research on the post-Soviet space, this represents an important refinement. It demonstrates that horizontal trust should not be treated as a universal proxy for democratic potential.

Figure 1: Correlation with LibDem



Source: Author's own elaboration.

A different picture emerges with regard to trust in parliament. The value of $\rho = 0.600$ is the highest among the three obtained coefficients. This makes it possible to speak of a moderate positive relationship: countries with higher levels of trust in parliament generally also exhibit higher levels of liberal democracy. This variable appears to be the most sensitive to institutional differences among the cases examined. From a substantive perspective, such a result is quite logical. Unlike interpersonal trust, this indicator concerns perceptions of a specific political institution directly linked to representation, the legislative process, and the formal architecture of democratic politics. Consequently, its correspondence with the Liberal Democracy Index is considerably stronger.

At the same time, this result should not be oversimplified. It does not imply that trust in parliament itself "produces" higher levels of liberal democracy. Correlation analysis does not permit such a conclusion. It does, however, allow us to argue that attitudes toward parliament are more closely connected to the institutional configuration of the political regime than the general level of social trust. For the analysis of post-Soviet transformations, this has important implications: attitudes toward specific institutions may serve as more relevant indicators than abstract measures of trust or broad assumptions about values.

The indicator of support for democracy occupies an intermediate position. Its correlation with the Liberal Democracy Index is positive but weaker than that of trust in parliament. This means that normative approval of democracy is indeed associated with the institutional level of democratic development, although the relationship remains incomplete. In other words, countries in which democracy is evaluated more positively tend to exhibit higher levels of liberal democracy, yet this correspondence is not as strong as in the case of institutional trust. This finding is particularly revealing because it highlights the distinction between the normative

and institutional dimensions of democracy. Democracy may be perceived as a desirable and legitimate system even where its institutional realization remains limited or contradictory.

The findings result from the fact that the correlation analysis made it possible to assess whether differences among the examined countries are consistently reproduced across different dimensions of political culture. The results indicate that this pattern is neither random nor universal: countries differ from one another consistently only in certain dimensions, not in all of them.

More specifically, the ranking of countries according to the Liberal Democracy Index is reproduced in the case of trust in parliament (with Estonia and Lithuania scoring higher, and Russia and Belarus lower), whereas this ordering breaks down in the case of interpersonal trust and support for democracy. This indicates that differences among countries are not equally present across all dimensions of political culture but are instead associated with particular types of attitudes.

The correlation analysis thus performs a clearly defined function: it makes it possible to distinguish those dimensions in which cross-country differences are stable from those in which they are not. Without this step, it would be impossible to determine whether the observed differences among countries represent a consistent pattern or are dependent on the choice of indicator.

The overall result therefore refines the assessment of the countries themselves. It demonstrates that differences among post-Soviet states are most clearly manifested at the level of attitudes toward political institutions, whereas at the level of general attitudes they remain unstable. This implies that comparisons based on aggregated or generalized indicators of political culture tend to distort the actual institutional configuration of countries, whereas indicators linked to specific political institutions more accurately reproduce the differences between more democratic and less democratic cases.

Conclusion

This study demonstrates that differences in the trajectories of post-Soviet transformations cannot be satisfactorily explained either through the universalist logic of transitology or through the notion of political culture as an internally homogeneous and linearly operating factor. The theoretical section of the article consistently shows that, in the context of the post-Soviet space, political culture should be understood not as a fixed set of “preconditions for democracy” but as a multidimensional system of attitudes shaped through interaction with institutional change, experiences with political authority, and specific political contexts. For this reason, political culture is operationalized not as an abstract cultural whole but as a set of individual dimensions that can be compared with institutional outcomes.

The comparative analysis of the political context of the mid-1990s confirms that the former Soviet republics did not follow a single developmental trajectory even during the early stages of transformation. Instead, they developed according to distinct models. In the Baltic states, reforms were accompanied by institutional consolidation and orientation toward Western structures; in Belarus and, to a considerable extent, in Russia, state-building was accompanied by the strengthening of presidential power; in Georgia, transformation unfolded under conditions of post-conflict state reconstruction. This context serves not merely a descriptive function but constitutes the analytical foundation of the study: the countries compared already differed in the mid-1990s with regard to regime type, patterns of political legitimacy, and directions of political development.

Within this framework, the quantitative component of the study serves not an illustrative but a verification function. It makes it possible to assess the extent to which differences among countries are reproduced across individual dimensions of political culture and how these dimensions relate to the institutional indicator of liberal democracy. A key methodological choice

is the distinction between three separate dimensions: interpersonal trust, trust in parliament, and support for democracy. This approach prevents the reduction of political culture to a single aggregated index and allows for a more precise examination of the relationships between different types of attitudes and institutional outcomes.

The principal finding of the analysis is that political culture within the examined sample of countries does not constitute a unified explanatory block. Its individual dimensions relate differently to the level of liberal democracy and therefore cannot be interpreted as interchangeable indicators of the same phenomenon. This conclusion represents the central contribution of the article: it demonstrates that, in the post-Soviet context, it is analytically insufficient to speak of a "democratic political culture" in general terms; rather, it is necessary to distinguish between specific types of political orientations.

More specifically, the results indicate that interpersonal trust does not reproduce institutional differences among countries. Higher levels of trust in other people do not correspond to higher values of the Liberal Democracy Index within the analyzed sample. This finding challenges the simplified assumption that a "more trusting society" necessarily implies a higher level of democratic development. In the context of post-Soviet studies, this represents an important refinement that highlights the limited explanatory value of horizontal social trust as a general indicator of democratic potential.

Trust in parliament, by contrast, carries greater analytical significance. This dimension appears to be the most sensitive to differences among countries in terms of the level of liberal democracy. The findings suggest that attitudes toward specific political institutions are more important for explaining differences among post-Soviet regimes than broad value orientations. At the same time, it should be emphasized that this relationship is correlational and does not permit causal conclusions; rather, it points to a systematic association between institutional trust and the quality of the political regime.

Support for democracy as a normative ideal occupies an intermediate position. Positive evaluations of democracy are associated with higher levels of liberal democracy, but the relationship is incomplete. The findings therefore reveal a distinction between the normative and institutional dimensions of democracy: democracy may be regarded as a desirable system even under conditions where its institutional realization remains limited. This discrepancy is characteristic of the post-Soviet space and constitutes an important analytical insight.

The overall conclusion of the article therefore lies in refining the role of political culture in explaining post-Soviet transformations. Political culture possesses explanatory potential only when it is analyzed as an internally differentiated set of attitudes, with the greatest significance attached to those dimensions linked to specific political institutions. By contrast, aggregated or abstract indicators tend to produce distortions and cannot reliably reproduce differences among countries.

In this way, the article contributes to the study of post-Soviet transformations on two levels. At the theoretical level, it refines the use of the concept of political culture in comparative political science and rejects its simplified, homogeneous interpretation. At the empirical level, it demonstrates that differences among post-Soviet states are most consistently reflected in attitudes toward political institutions rather than in general social orientations. The result is a more precise understanding of how political-cultural factors relate to institutional structures and the level of liberal democracy in the post-Soviet space.

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THE HISTORICAL DEVELOPMENT OF CLIMATE CHANGE RESEARCH AND DISCOURSE[1]

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Abstract: This paper examines the historical development of climate change and global warming research. It defines climate change as both a natural phenomenon present throughout Earth's history and a current environmental problem closely linked to human activity. The study considers the hypothesis of natural fluctuation by addressing factors such as solar radiation and changes in the Earth's orbit. However, it argues that these natural factors cannot sufficiently explain the rapid warming observed in recent decades. By tracing key scientific contributions from Fourier, Arrhenius, Milankovitch, Callendar, Plass, and Broecker, the study demonstrates how understanding of the relationship between atmospheric gases, carbon dioxide concentration, and global temperature gradually evolved.
Keywords: climate change, historical development, academical consensus, anthropogenic emissions
JEL: Q54

Introduction

The extensive field of environmental studies is concerned, among other issues, with examining possibilities for preventing the disruption of the planetary equilibrium of the Earth's environment. This complex issue presents challenges that scholars have been able to identify over a broader temporal horizon, particularly during the 20th and 21st centuries, although to some extent also much earlier. They have done so on the basis of extensive studies originating from numerous scientific disciplines. Although the issue of climate change is primarily classified within environmental studies, it is beyond doubt that the search for a satisfactory solution requires the implementation of interdisciplinary research encompassing not only environmental studies, but also technical, chemical, physical, economic, and political studies.

The aim of this research is to demonstrate that the majority of scholars, both past and present, agree that the negative impacts of human activity on the environment are evident and that the urgency of addressing them is increasing. We will test the assumption of natural fluctuation, which argues that current climate change may have a natural rather than anthropogenic origin and would have occurred regardless of whether humans were present on the planet or not.

1 Overview of global warming

Climate change represents a form of transformation that affects global natural conditions, particularly in relation to changes in temperature. Although this term, or phrase, may also define a natural and historical phenomenon occurring within the existence of certain planets—a phenomenon that this study will analyse in greater depth when examining the hypothesis of natural

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fluctuation—it is currently almost inevitably associated with the negative phenomenon of a rapid change in the Earth's global temperature as a consequence of human activity.

As such, this phenomenon has occurred throughout the Earth's existence in certain periods, with the average temperature of the Earth exhibiting natural fluctuation over the long term. The same pattern of long-term fluctuation can also be observed in the development of atmospheric carbon dioxide concentration, although its increase and decrease can also be recorded in the short term as a result of photosynthesis (Shirah & Mitchell, 2017). A certain proportion of the observed climate change may therefore be attributed to natural phenomena such as volcanic eruptions, variations in solar radiation, tectonic shifts, or changes in the Earth's orbit, all of which have observable effects on the development of planetary warming and cooling (Natural Resources Defense Council, 2022). On the basis of available data, it is evident that these natural causes influence the development of global temperature; however, their effect is too limited, or their frequency too low, to satisfactorily explain the rapid warming recorded in recent decades. On this basis, the chapter will further argue that, in the examination of contemporary climate change, the factor of long-term temperature fluctuation and natural phenomena is partially irrelevant, since current measurements record an exceptionally non-standard rate of development in comparison with data defining historical conditions.

Individual publications and perspectives differ with regard to questions concerning the earliest definitions of climate change, the examination of the impact of carbon dioxide on the development of global temperature, and the conceptual delimitation of greenhouse gases (GHGs). Based on the available literature, however, it is possible to define a generally assumed trajectory of research leading to the contemporary academic interest in examining the problem of climate change and identifying its potential solutions.

2 Historical origins of climate change research

The initial efforts that implied a growing interest in the study of changes in the planet's temperature can already be traced to the 19th and 20th centuries, when a broad range of geomorphological and palaeontological studies began to emerge. Their findings provided new data and information on the Earth's past climate, covering periods of hundreds of millions of years. The Palaeozoic era, which began approximately 541 Ma ago (million years ago), exhibited evidence of both warmer and colder climatic conditions than those prevailing today (Green et al., 2023). The Tertiary period, which began 65 Ma ago and lasted more than 62 million years, was generally warmer, whereas the Quaternary period, which followed it and in which the planet remains to the present day, is defined by so-called ice ages and displayed oscillations between glacial and interglacial conditions (Le Treut et al., 2007).

The correlation between atmospheric gases and temperature changes, however, was suggested much earlier by Fourier in his 1827 publication *Mémoire sur les températures du globe terrestre et des espaces planétaires*. Many studies attribute to Fourier the initial use of the term "greenhouse effect", since in his study he was the first to compare the warming of the Earth's atmosphere to the effect of glass—in analogy to certain atmospheric gases—in a greenhouse, with the Earth serving as the analogous enclosed system (Postma, 2015). Although Fourier's findings do indeed contain documented references to the greenhouse analogy, criticism concerning this attribution of primacy argues that greenhouse gases are neither the central focus of his theory of terrestrial temperatures nor unequivocal predecessors of the contemporary theory of the greenhouse effect (Fleming, 1999).

Fourier pointed to the potential effect of atmospheric gases on the Earth's temperature; however, he did not define the potential severity of the influence of these gases on the development of global temperature. Arrhenius, who had already been extensively concerned with the question of the causes of the onset and retreat of ice ages at the end of the 19th century, developed a more

comprehensive theory concerning the influence of atmospheric carbon dioxide on global temperature.

His initial research objective was to determine the extent to which increased amounts of carbon dioxide and water in the atmosphere contribute to the warming of the planet. He knew that while CO_2 and other gases trap infrared radiation and thereby warm the atmosphere, warmer air retains a greater amount of water vapour, which itself contributes significantly to the greenhouse effect. Thus, if atmospheric CO_2 levels increased, the proportion of water vapour in the air would also rise, resulting in substantially faster warming.

In this case, he used the late 19th century as the baseline period, rather than the pre-industrial period that is frequently used today, and did not directly refer to ppm, i.e. the number of CO_2 molecules per million molecules of air. These levels, however, were later estimated by Callendar at 290 ppm, a figure also confirmed by a more recent study by From and Keeling (From & Keeling, 1986), which estimated the concentration at 292 ppm. In the results published by Arrhenius in 1896, based on extensive calculations, he concluded that if CO_2 levels were reduced by half, global temperature would decrease by approximately 4 to 5 °C. Conversely, in the case of a doubling of atmospheric CO_2 levels, his results indicated a potential temperature increase of 5 to 6 °C.

Already at that time, it was known that human activity, in the form of extensive coal combustion, was emitting unusually high quantities of CO_2 into the atmosphere. Following from his results, Arrhenius later estimated that the consequence of human activity would lead to a permanent increase in CO_2 levels of approximately 50% over a time horizon of 3,000 years. Given that he was among the first to provide initial estimates of the impact of greenhouse gas emissions on the development of global temperature, it is not surprising that these estimates were not precise.

While Arrhenius believed at the turn of the 19th and 20th centuries that a 50% increase would take millennia, one century later modern measurement technology recorded an increase in atmospheric CO_2 concentration of almost 30% — 369 ppm (World Meteorological Organization, 2025) — compared with the baseline period (Sample, 2005). Naturally, at the time when he presented his estimates, technological capacities and the resulting entities emitting greenhouse gases were incomparably lower than those of the interwar and post-war periods of the 20th and 21st centuries.

Milankovitch, who also used the term climate change in his publication, examined the origin of ice ages, similarly to Arrhenius. His study complemented theories pointing to changes in the amount of solar energy reaching the Earth's surface as a result of changes in the Earth's orbital parameters. On this basis, the term *Milankovitch cycles* today defines the manner and changes of the Earth's orbit within the Solar System, as well as their impacts. He pointed to the fact that precisely these changes, or cycles, influence the amount of solar radiation and thus the amount of energy that the Earth absorbs from the Sun (NASA, 2020). However, the definition of climate change in his study was not focused on anthropogenic origin; rather, it implies a long-term effect caused by external factors resulting from the Earth's position in the Solar System, which cannot be influenced by human intervention. On the basis of his findings, however, it became possible to define more precisely the origin of the planet's climatic changes from an astronomical perspective.

His findings, however, may have been misinterpreted, giving rise to questions as to whether contemporary global warming is not the result of the natural cycles of the Earth's orbit around the Sun. Milankovitch cycles, however, define periods of tens of thousands of years, whereas the most pronounced and extreme warming of the Earth has been observed over the span of only several decades. During measured glacial cycles, the concentration of atmospheric carbon dioxide fluctuated approximately between 180 ppm and 280 ppm as part of climatic changes resulting from Milankovitch cycles. Today, it is evident that this concentration deviates radically from this

presumed norm. Moreover, and probably most importantly, the Earth is currently in an interglacial period, and if humans were not present on the planet at this time, it would be undergoing slight cooling, which began approximately 6,000 years ago and would continue for several further millennia (NASA, 2020).

3 Correlation between temperature changes and anthropogenic activity

After Arrhenius's discoveries, the academic sphere began to devote increasing attention to the potential influence of human activity on the development of global conditions. Callendar was the first to attempt to point to the possibility of future negative impacts of human activity in the area of carbon dioxide emissions. He analysed the correlation between "the artificial production of carbon dioxide and its influence on temperature", concluding that, through the combustion of fossil fuels, humanity had added approximately 150,000 million tonnes of carbon dioxide to the atmosphere over roughly 50 years, from 1890 to 1940.

He estimated that approximately three quarters of this amount remained in the atmosphere, and that the increase in average temperature resulting from the artificial production of carbon dioxide amounted to 0.003 °C per year. At that time, temperature observations from meteorological stations indicated an overall increase in global temperature of approximately 0.005 °C per year over the same time interval (Callendar, 1938).

In 1956, Plass also examined temperature changes on Earth, basing his research on Arrhenius's earlier findings while simultaneously testing them. In his study *The Carbon Dioxide Theory of Climatic Change*, he more narrowly defined the influence of carbon dioxide on climate change and, on the basis of new research, was able to define the increase in temperature and atmospheric CO_2 content more precisely. He confirmed that human activity contributes significantly to the increase in CO_2 emissions, at a rate of almost 30% per century, causing an increase in average temperature of up to 1.1 °C over the same period (Plass, 1956). These findings, in the mid-20th century, pointed for the first time to the serious threat posed by carbon-intensive human activities.

The term "climate change" itself was first defined in connection with the term "global warming" by Broecker in his study *Climatic Change: Are We on the Brink of a Pronounced Global Warming* (Broecker, 1975). Broecker's observations in 1975, and subsequently their synthesis with Denton in 1989 (Broecker & Denton, 1989), significantly encouraged scientific interest in a deeper examination of the issue of climate change as it is understood today in the following decade (Le Treut et al., 2007).

Broecker's research led him to conclude that the "CO_2 effect" would become dominant, with uncertainty lying primarily in estimates of future fossil fuel use and in the rate of warming per unit of excess CO_2 in the atmosphere. The central point of his argument was that, over the 30-year period from 1945 to 1975, the warming trend caused by CO_2 had been partially suppressed by natural cooling. Even at that time, however, he assumed that this compensation could not continue in the long term, both because of the rapid increase in the effect of CO_2 on global temperature and because the natural cooling that the Earth was experiencing at the time would almost certainly come to an end in the short term. His findings also predicted that, after the cooling period ended, global temperature would begin to rise dramatically for at least four decades. He estimated that, by the year 2000, warming would bring average global temperatures to levels not recorded in the previous millennium (Broecker, 1975).

Today, it can be confirmed that Broecker's estimates were accurate and timely; however, his assumption regarding a possible slowdown in the rate of increase after four decades has not materialised, given that the Earth's average temperature continues to rise. Considering the level of technological development at that time, it was difficult to anticipate the degree of global development that would require the massive implementation of energy-intensive technologies consuming fossil fuels, whether actively or passively (Gaan, 2005).

The growing interest in environmental protection after the 1950s and following Broecker's discoveries was not confined solely to the field of science. Global efforts by individuals increasingly began to call for the restriction of environmentally harmful activities, the resolution of air pollution and other ecological problems, and the prevention of ozone layer depletion (European Environment Agency, 2024). The public atmosphere gradually resulted in a situation in which the international order could no longer disregard the necessity of addressing the problem, given the evidence demonstrating its existence. As a result, the issue of climate change gained international attention at the political level as well (Gaan, 2005).

Conclusion

The historical development of climate change discourse shows that relevant warnings about human influence on the climate have existed for more than a century. Early studies of the Earth's past climate demonstrated that the planet has experienced significant natural fluctuations in temperature over geological time. These fluctuations were influenced by factors such as volcanic activity, solar radiation or changes in the Earth's orbit. However, while these remain relevant for understanding long-term climatic history, especially glacial and interglacial cycles, they cannot sufficiently explain the speed and scale of contemporary global warming. The historical development of climate change research shows clear progression from general observations about the Earth's temperature to more precise scientific explanations of the greenhouse effect. Despite this, the urgency of the issue has continued to increase only as emissions, and global temperatures have risen and a negative impact started to occur. While natural climate variability has always influenced the Earth's environment, the present rate of global temperature increase is primarily the result of anthropogenic activity.

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THE 2024 EUROPEAN ELECTIONS: A REFLECTION OF GLOBAL POLARIZATION AND THE NEW TRAJECTORY OF THE EU

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Abstract: In June 2024, elections were held for the European Parliament, the world's only transnational directly elected body. These European elections are held every five years. This year´s elections brought several interesting results, right-wing and far-right parties prevailed, and some European leaders suffered defeat. Therefore, we need to ask ourselves, is Europe heading towards political radicalization and polarization or is it the opposite? The World Economic Forum´s Global Risks Report 2024 also identified social polarization as the world´s third most serious risk in the next two years. Political and social polarization is clearly visible across Europe. Many political scientists refer to the election to the European Parliament as a forum of national referendums of the 27 member states of the European Union as a reaction to the government policy of the member states of the EU. Will these European elections lead Europe to a new path?
Keywords: The European Parliament, election, polarization, EU
JEL: F5, H7, N4

Introduction

From the point of view of international relations, the European Union has the position of a unique actor in that it cannot be clearly classified as a classic international organization or as a state.

It is a constantly changing and evolving organism that faces a number of challenges related to the accelerating dynamics of events in the contemporary world. For these reasons, it is necessary to prepare the European Union for its new direction, so that it remains authoritarian, open and at the same time able to meet its ambitious goals in managing the individual policies of the European Union, its enlargement as well as in resolving the conflicting interests of its members throughout the Union.

The European Union is a strange entity for many. The current EU was created through gradual development, during which it acquired an increasing number of competences and decision-making powers. The EU is now an original supranational organisation, made up of 27 member states and millions of inhabitants.

„It has evolved from a largely Western European intergovernmental body into a quasi-federation with legislative powers that exceed those of its member states in many fields. It has seen the implementation of its own currency, the euro, in many member states and sports its own judicial structure that can trump those of its members " (Peterson & Shackleton, 2012).

"The idea of the European Union is primarily about institutions and procedures for solving problems or tasks. And it is precisely the institutions and procedures that define the European Union that have been created gradually and are still being completed. Their essence is neofunctional integration, unification in certain socio-economic sectors which brings benefits that increase by growing or branching integration into other sectors. This branching and overgrowth also extend into the realm of politics" (Krejčí, 2006, p. 381). It is, therefore,

impossible to perceive the European Union without reference to its institutions as the decisive bodies of the Union.

Decision-making within the European Union is divided between five main institutions: the European Council, the European Commission, the Council of the European Union, the European Parliament and the European Court of Justice. (Krejčí, 2001). In terms of the topic of our contribution, we will focus only on the European Parliament, and we will focus on the results of the European elections to the EP in 2024.

In 2024, the European parliamentary elections were held, resulting in a new composition of the European Parliament, one of the leading EU institutions. More than 360 million voters took part in the European elections, voting in 27 countries.

Because the EU election crosses so many borders, it would be the world's biggest transnational election (Msterson, 2023).

In terms of the number of voters, they cannot be described as the largest, but they are nevertheless one of the most important European elections that are held at the supranational level. Fears of a far-right victory in several European countries, such as Belgium, France, Italy, Hungary, Slovakia and Poland, also contributed to their importance. Some strengthening of far-right anti-European parties was also expected in Nordic countries such as Sweden and Finland. On the other hand, traditional pro-European parties were expected to decline in voter support. The polarisation and radicalisation that is evident across Europe was expected to have a significant impact on the outcome of these elections, which are crucial for the development of the EU as well as for Europe as a whole.

In every country of the European Union, citizens have the right to vote in elections to the European Parliament. In these elections, citizens across the European Union elect their representatives for their seats as Members of the European Parliament, or MEPs. The selected representatives are then elected for a period of five years, during which time they represent the interests of all citizens of the European Union at the pan-European level. It is for this reason that these elections are also referred to as European elections.

It was the tenth direct election of representatives to the European Parliament.[1] The elections to the European Parliament were held from 6th to 9th June 2024. Once elected, MEPs play an important role in decision-making processes as well as in the appointment of senior positions within the European Union.

Many political scientists, analysts and experts on the European Union described the elections to the European Parliament as groundbreaking, as they represent a new stage of the European Parliament and the European Union itself. The elections took place at a time when both Europe and the whole world were influenced by new phenomena and processes in the field of national and international politics.

Four years after the start of the Russian invasion of Ukraine, well after the COVID-19 pandemic and Brexit, and following Donald Trump's recent return to the White House, the geopolitical landscape has fundamentally shifted. This turbulent evolution culminated in a shift within the European Parliament, where weakened traditional elites definitively face a new reality of significant right-wing influence (European Parliament Elections, 2024).

The Global Risks Report, developed in collaboration with Marsh McLennan and Zurich Insurance Group, explore some of the most severe risks we may face over the next decade. The report identified the social and political polarization of society[2], both now and in the two-year horizon, among the three main risks. The report points to a high degree of dependency of social

[1] The first direct elections to the EP were held in 1979.

[2] "Please select up to five risks that you believe are most likely to present a material crisis on a global scale in 2024." In first place with 66% extreme weather, in second place with 53% AI-generated misinformation and disinformation, in third place with 46% Societal and/or political polarization, and in fourth place with 42% Cost-of-living crisis, in last fifth place with 39% Cyberattacks. The placement of disinformation in second place is also interesting.

polarisation and economic downturn, which creates additional risks. The most serious global risk expected over the next years is that foreign and domestic actors will use disinformation to further widen social and political divisions that will lead to a higher degree of political and societal polarization (The Global Risk Report 2024, p. 7).

The poor economic situation leads voters to be more inclined to believe disinformation, and they tend to be more prone to ideas of populism and radicalism. On this basis, their voter preferences are then directed towards supporting radical political parties in the belief that they will solve their problems. Such support contributes to social and political polarization.

In general, beyond elections, perceptions of reality are also likely to become more polarized, infiltrating the public discourse on issues ranging from public health to social justice. However, as truth is undermined, the risk of domestic propaganda and censorship will also rise in turn. (The Global Risk Report 2024, p. 8).

The situation before the elections to the European Parliament was somewhat similar. Geopolitical tensions have led to a decline in economic growth, tightening of EU monetary policy and increased economic uncertainty, resulting in a contraction in the euro area economy. These factors had a direct impact on citizens/voters and their economic situation, making them more susceptible to accepting the disinformation they faced.

In the presented article, the aim of the authors will be to analyse the results of the elections to the European Parliament and based on them they will try to evaluate the new distribution of 720 seats among individual groups. They will focus their attention primarily on the characteristics of far-right factions that operate in the European Parliament. They will determine whether there is polarisation within the European Parliament. Also, whether there is a visible increase in populist extremist forces, as is the case with national parliaments. At the same time, they will determine how strong these groups are, i.e. whether they are able to enforce their demands and can influence the future direction of the European Parliament.

The basic methodological approach in preparing the contribution is the explanation and interpretation of the results of the European elections, focusing on far-right factions. We drew information for this part of the article from the official websites of the European Parliament and from the official websites of the European factions. For the description of the functioning of the European Parliament and its tasks and competencies, we used the works of the following authors: O. Krejčí, K. Baranik, P. Fiala, O. Krutílek, M. Pitrová, H. Lelieveldt, S. Princen, C. Mude.

The theoretical basis was based on the works by J. M. Esteban and D. Ray, The Measurement of Polarization and J. Esteban, G. Schneider Polarization and Conflict: Theoretical and Empirical Issues.

In addition to the description and analysis of the determining factions in the European Parliament, we also focused on the possibility of an increase in the far right and an increase in polarization in the European Parliament, where the determining factors will be A Sharp right turn: a forecast for the 2024 European Parliament election, A new era begins, voters are more interested in economic issues than climate change, The Global Risk Report 2024, A Sharp right turn: a forecast for the 2024 European Parliament election. The contribution should become the basis for more extensive research in the subject area.

1 Theoretical basis – Polarization

The concept of polarization in the social sciences seems to be very clear and unambiguous at first glance. This is not quite the case, given that it can be viewed from several perspectives, sociological, economic, political, cultural, which gives it a large spectrum of different dimensions.

According to J. M. Esteban and D. Ray, conceptualize polarization as a function of how many people feel antagonized by how many other people. By this definition, polarization increases when one extreme group grows while the other extreme group remains constant, and a large

increase in one group can more than offset a small decrease in the other. The tensions within a society of individuals or states result from two simultaneous decisions: identification with other subjects within their group of reference and distancing oneself from one or several other competing groups (Esteban & Ray, 1994).

Any measure of polarization has to possess the following basic traits:

1. Polarization is a systemic attribute and mainly considers groups as the crucial. Isolated individuals should therefore have little weight in the calculation of social polarization.
2. The level of polarization increases with the degree of homogeneity within each group.
3. There must be a high degree of heterogeneity across groups (Esteban & Schneider, 2008).

As stated by J. M. Esteban and D. Ray, in today's society, two completely opposing groups are formed, with members of neither of them willing to accept the views of members of the other group. This leads, on the one hand, to the creation of more homogeneous groups of opinions, and on the other hand, it deepens the polarization in society as well as on the political scene, which is currently very visible throughout Europe.

Growing polarization contributes to tension and increases frustration. Voters are then more inclined to support populist, anti-system, extremist political parties, as can be seen in Europe. Their increase threatens the pro-European orientation, encourages the intensified spread of disinformation and strengthens manipulative narratives. The democratic character of elections is also often questioned, or attempts are made to influence the voting behaviour of citizens, either by trying to reduce voter turnout or by possible mobilization of "anti-system" voters.

2 The European Parliament – a key feature

As regards the management of the elections to the European Parliament, it is up to each country to manage the election, but there are some common principles they must apply:

- Elections take place during a four-day period, from Thursday to Sunday,
- The number of MEPs elected from a political party is proportional to the number of votes it receives,
- EU citizens resident in another EU country can vote and stand for election there,
- Each citizen can vote only once (European elections, 2024).

In addition, each Member State has the option of partially regulating the rules relating to elections to the European Parliament. These are the so-called national rules, which are regulated by the states within their national legislation. However, the condition is that they must not be in conflict with the rules of the European Union. This includes, for example, setting the exact day of the election. The elections are held over four days, and the specific date is set by the states themselves.

The situation is similar with the conditions of mandatory elections. For example, „Compulsory voting" is compulsory in only four Member States – Belgium, Bulgaria, Luxembourg and Greece – where the legal obligation to vote applies to nationals and registered non- national EU citizens. In Greece voting is not compulsory for voters over the age of 70, for residents abroad or voters who are over 200 km from their polling station on election day (2024 European elections, 2024).

The size and number of constituencies are determined by the Member States themselves. For most of them, in the European Parliament elections, the territory of a Member State consists of a single constituency, but there are countries that form several constituencies (Belgium, Italy, Ireland, Poland). The establishment of the electoral quorum is also left to the competence of the Member State. Its limit varies from country to country and can be 1.8%, 3%, 4%, 5%, or none at all, as in Belgium, Bulgaria, Denmark, Malta etc.

Most Member States allow the possibility to vote from abroad in EP elections, although in two (Bulgaria, Italy) that right applies only to citizens in another EU Member State (2024 European elections, 2024).

The passive right to vote in the European Parliament is also a competence of the states, and for this reason the age limit varies. In most states, they are 18 years old, but they can be 21, 23, or 25 years old.

In June 2024, 720 Members of the European Parliament were elected, which was 15 more than in the previous elections.[3] The number of members of the European Parliament who were elected in individual countries in the European Parliament elections in 2024:

- Germany: 96
- France: 81
- Italy: 76
- Spain: 61
- Poland: 53
- Romania: 33
- Netherlands: 31
- Belgium: 22
- Greece: 21
- Czech Republic: 21
- Sweden: 21
- Portugal: 21
- Hungary: 21
- Austria: 20
- Bulgaria: 17
- Denmark: 15
- Finland: 15
- Slovakia: 15
- Ireland: 14
- Croatia: 12
- Lithuania: 11
- Slovenia: 9
- Latvia: 9
- Estonia: 7
- Cyprus: 6
- Luxembourg: 6
- Malta: 6 (European elections, 2024)

It can be stated that the most represented country is Germany, which has 96 members in the European Parliament, and the least represented are Cyprus, Luxembourg and Malta, each of which have 6 members in the European Parliament.

[3] In the 2024 European Parliament elections, a total of 720 deputies will be elected to the European Parliament. This is an increase of 15 of the 705 members of the European Parliament in the outgoing parliament. A total of 751 deputies were elected in the 2019 elections (the maximum possible number according to Article 14, paragraph 2 of the TEU). Once this country's withdrawal freed up 73 seats filled by MPs elected in the United Kingdom from the EU, another 27 deputies took their seats on February 1, 2020, by the provision adopted in the 2019 elections in the 14 affected member states.

The number of MEPs is usually decided before each election. The total number cannot exceed 750 deputies plus the President. There is also a rule that there is a minimum and maximum number of representatives in the European Parliament for each state. No Member State may have fewer than 6 Members and more than 96 Members of the European Parliament.

The number of MEPs is based on the principle of degressive proportionality, which means that MEPs from larger countries represent more people than MEPs from smaller countries. The last major change in the number of MEPs took place after Brexit, when the seats of the United Kingdom were redistributed.[4] Some of the seats were distributed, some remained "free" for future potential members of the European Parliament as well as for the need to increase the number of seats of the current Member States in order to take into account the increasing demographic structure of the population of individual Member States. For the above reasons, the number of Members of the European Parliament is regularly reviewed and changed.

After the elections, individual Members of the European Parliament look for their political group based on their political priorities, political party settings and preferences. Some political parties are also members of European political parties, which predetermines the inclusion of their deputies in certain groups. Some of the deputies will be included in the already existing groups, or in the newly formed ones, and some deputies will remain unincluded. 23 deputies are needed to form one political group. At the same time, the members of one such group must be representatives of at least seven Member States.

The creation of these political groups or factions must be completed by 15 June at the latest, i.e. before the first plenary session of the constituent session of the European Parliament.

3 Election results and the creation of political groups/ fractions

Members of the European Parliament sit in political groups. These are organised by political affiliation, not nationality. However, belonging to a political group is of particular relevance when it comes to the allocation of key positions in Parliament's political and organisational structures, such as committee and delegation chairs and rapporteur ships on important dossiers. Moreover, political groups receive higher funding for their collective staff and parliamentary activities than non-attached Members (Baranik, 2024).

In the next part of the paper, we will give a brief analysis of the political groups/factions that operate in the current European Parliament. We will focus primarily on far-right factions. We will try to clarify how strong these groups are, that is, whether they are able to enforce their demands and whether they can influence the future direction of the European Parliament. At the same time, we will be interested in whether the pre-election assumptions about the strengthening of the radical right in the European Parliament have been fulfilled.

In January 2024, Kevin Cunningham, Simon Hix, Susi Dennison and Imogen Learmonth developed a model on the basis of which they tried to predict the results of the European Parliament elections.

"Their results show that the two main political groups in the parliament – the European People's Party (EPP) and the Progressive Alliance of Socialists and Democrats (S&D) – will likely continue to lose seats (they have lost seats in the last two European Parliament elections). This reflects the long-term decline in support for mainstream parties and the growing support for extremist and smaller parties across Europe, which is resulting in an increasing fragmentation of European party systems, at both, the national and European levels. Despite this, we expect the EPP to remain the largest group in the parliament, and therefore maintain most agenda-setting power, including over the choice of the next commission president (Cunningham, Hix, Dennison, Learmonth, 2024, p. 3).

[4] After the departure of Great Britain, 73 seats remained vacant.

We have to say that their prediction has come true to a certain extent. The EPP won the elections and remained the most influential and numerous groups in the European Parliament. Today there are 8 factions in the European Parliament (Table 1) and 33 non-attached Members who do not belong to any group.

Table 1: Results of the elections to the EP (2024-2029)

Political groups in the European Parliament	No. of seats 2024	% of seats 2024
EPP - Group of the European People's Party (Christian Democrats)	188	26.11%
S&D - Group of the Progressive Alliance of Socialists and Democrats in the European Parliament	136	18.89%
PfE - Patriots for Europe	84	11.67%
ECR - European Conservatives and Reformists Group	78	10.83%
Renew Europe - Renew Europe Group	77	10.69%
Greens/EFA - Group of the Greens/European Free Alliance	53	7.36%
The Left - The Left group in the European Parliament - GUE/NGL	46	6.39%
ESN - Europe of Sovereign Nations	25	3.47%
NI - Non-attached Members	33	4.58%

Source: European Parliament, European Union, 23/7/2024
https://results.elections.europa.eu/en/european-results/2024-2029/

Based on the official results of the European Parliament elections from June 2024, we can say that the *EPP - Group of the European People's Party (Christian Democrats)* - once again became the strongest group in the newly elected parliament, which won 26.11%, a total of 188 seats, which is one more than in the previous elections in 2019. At the same time, it can be described as strongly pro-European.

The EPP Group is the largest and oldest group in the European Parliament. A centre-right group, we are committed to creating a stronger and self-assured Europe, built at the service of its people. Our goal is to create a more competitive and democratic Europe, where people can build the life, they want (EPP, 2026).

As far as political priorities are concerned, their effort is to focus mainly on the area of security and economic development. The EPP Group plans to step up its efforts to boost EU security, the economy, regional development, and crime fighting (EPP, 2026). EPP Group Chairman is Manfred Weber.

S&D - Group of the Progressive Alliance of Socialists and Democrats in the European Parliament won 18.89%. It recorded a certain loss, losing twelve seats, compared to the result of the previous elections. Nevertheless, it maintained its position as the second strongest bloc in parliament, thanks to winning 136 seats.

The S&D is a faction that brings together MEPs from social democratic parties associated in the Party of European Socialists. It is the second oldest faction that has been active in the European Parliament since 1952, and its leader is Itraxe García Pérez (Spain). Among the key demands the Socialists and Democrats are:

- A strong social dimension: A New Action Plan on the Implementation of the European Pillar of Social Rights,
- A clear commitment to the Green Deal, fight against Climate Change and Just transition,

- A gender equal Europe: A New Gender Equality Strategy to fight violence against women and ensure equal opportunities (Groupe of…, 2026).

Another of the groups operating in the European Parliament is *PfE - Patriots for Europe*, it is one of the youngest, as it was established shortly after the elections on July 8, 2024. It won 11.67%, which brought it 84 seats in parliament. These mandates are represented by 14 national parties and 12 EU Member States. This group can be relegated to the right side of the political spectrum. It is considered a right-wing faction and is often referred to as far-right. Its founders are former Hungarian Prime Minister Viktor Orbán, current Czech Prime Minister Andrej Babiš, and former Austrian Interior Minister Herbert Kickl.

The president is the French politician, Jordan Bardella. It is currently the third largest group in the European Parliament.[5]

The PfE consists of the ANO, Přísaha, Motoristé sobě (Czech Republic), CH (Portugal), DF (Denmark), Fidesz, KDNP (Hungary), FL (Greece), FPÖ (Austria), Lega (Italy), LPV (Latvia), PVV (Netherlands), RN (France), RN (Poland), Vlaams Belang (Belgium), Vox (Spain).

Their main orientation is to increase the exclusive powers of nation states, eliminate illegal migration, and fight against the Green Deal. Rassemblement National MEP Jean-Paul Garraud made it clear to the press that "we want a return to what was there before Maastricht" (Baccini, 2024).

On June 30, 2024, representatives of the three founding parties signed the "Patriotic Manifesto for a European Future". The agenda sets out the ideology of the alliance, which includes weakening of the EU, focusing on European cultural identity, tougher measures against illegal migration, protecting national sovereignty and revising the European Green Deal. In addition, reducing Brussels bureaucracy and increasing the transparency of EU decision-making, reducing tax burdens for the middle class, protecting Christian values and the traditional family model and supporting and developing national economies, and protecting European agriculture (Patriots for Europe, 2026).

The support for *ECR - European Conservatives and Reformists Group* has increased in this year's elections, improving by 18 seats compared to the result of the previous elections. Together, they gained 10.83%, which gave them 78 seats in the European Parliament and made them the second largest group in the right-wing wing of the European Parliament. The core of this group is made up of deputies from the Italian political party Fratelli d'Italia and the Polish political party Law and Justice, who have a total of 44 representatives.

ECR opposes a "European super-state" and an "automatic deepening of EU political integration," focusing on the "preservation of national identities" and the classic idea of the nation-state. In their politics, they backed away from the idea of leaving the Union, but now European conservatives are calling for "a reform of the European Union" whereby "the EU must do less but better. "Also criticizing the "overly ideological green climate policy," (Baccini, 2024). The leader of ECR is Giorgia Meloni.[6]

Renew Europe - Renew Europe Group - recorded a significant decline in voter support in this year's elections, winning only 10.69%, which earned it 77 seats, which was 20 less than in the previous elections, when it won 97 seats. They support the development of the European Union for a united and prosperous Europe. We want to rekindle the humanistic identity of Europe by always putting the citizens at the core of our priorities. Economic growth, environmental sustainability, fair competition, convergence rights and responsibility go hand in hand (Renew Europe, 2026). Renew Europe intends to be the flag bearers for liberals and centrists across Europe.

[5] The group includes almost all former members of the Identity and Democracy group, which was far right during its ninth term (2019-2024).

[6] G. Meloni is an Italian politician who has been serving as the prime minister of Italy since October 2022, the first woman to hold this position.

We will advance an ambitious political programme, based on the protection of fundamental democratic rights and values, reform to promote sustainable growth and increased competitiveness to secure a better life for all EU citizens, and the forging of a new European Defence Union (Renew Europe, 2026).

They support the implementation of the Pact on Migration and Asylum and the Green Deal. And they are against populism and extremism and for the creation of a "new" European Union that guarantees safety of all its citizens. *Greens/EFA - Group of the Greens/European Free Alliance* – is a group in the European Parliament that received 7.36% support in the elections. In total, it received 53 seats, which was 14 fewer than in the 2019 elections (it had 67 seats then). Greens/EFA is pro-European and supports green policy.

As for the votes in the last parliamentary term concerning legislation in the field of climate, nature and pollution, it was Greens/EFA, which was one of the biggest supporters in all these spheres (Find out more, 2024).

In our opinion, there has been a decline in voter support mainly due to the promotion of the Green Deal[7], which was perceived very negatively or even threateningly, also due to the spread of disinformation. However, it is true that the targets set were too ambitious. Another reason is that the issue of safety has become a priority for the people of the EU.

The Left - The Left group in the European Parliament - GUE/NGL - won 6.39% of the votes, which gave it 6 more seats than in the previous elections, when it took 40 seats. Its members represent 13 Member States, mainly from Central, Western and Northern Europe. It is a left-wing grouping in the European Parliament, which is rather eurosceptic. It is headed by German politician Gabriele Zimmer.

The basic ideology of the GUE/NGL is democratic socialism, which is based on its foundation in the communist parties. To some extent, it supports eurocommunism, which partly leads to soft euroscepticism.

The Left stand up for workers, the environment, feminism, peace and human rights. The vision of a European Union that defence people and the planet, a Europe of equality, sustainability and solidarity unites us (The Left, 2026).

Although it has strengthened its position, this faction is the second smallest in the newly created European Parliament. Its higher support is conditioned by the economic downturn in the eurozone, which is reflected in the deteriorated economic situation of EU citizens themselves.

ESN - Europe of Sovereign Nations - is a newly created group that was formed shortly before the elections, on July 10, 2024, and won 3.47%, which allowed it to occupy 25 seats in the European Parliament. The Members of this group come from 8 Member States, which entitles them to unite. It is the smallest group in the entire European Parliament and at the same time the newest right-wing faction. ESN can be described as the most radical right-wing in the current European Parliament, which brings together eurosceptic and nationalist parties, often described as controversial and pro-Russian. Their positions are anti-immigration, mainly aimed at islamization and they are also against European integration. They are against aid to Ukraine, the Green Deal, and social progressivism. A significant part of the deputies is made up of the German political party Alternative for Germany (AfD).[8] They proclaim slogans such as "The end of the European Union, without internal reforms". Their opinions and attitudes are often at odds with the mainstream.

[7] European Green Deal is a plan for Europe to become a climate-neutral continent by 2050. Parliament adopted the EU's climate regulation on 24 June 2021, making the 55% emissions reduction target by 2030 and the goal of climate neutrality by 2050 legally binding.

[8] It is a far right and populist political party in Germany. The AfD is Eurosceptic, it is against immigration to Germany - especially Muslims. The German judiciary has classified this party as a "suspected extremist" party. 14 members.

In addition to the above-mentioned groups, the European Parliament also includes the so-called *NI - Non-attached Members* who are not part of any elected faction. In the newly elected European Parliament, they received a total of 4.58%. This part of the parliament is represented by 33 deputies.

4 Structural changes in the EP after 2024

The reality following the 2024 European elections confirms that the assumptions of the model developed by J. M. Esteban and D. Ray have been only partially fulfilled. In fact, the European Parliament did not transform into a simplified bipolar system, but rather into a system of asymmetric and fragmented multipolarity. The composition of the European Parliament underwent a significant transformation after the 2024 European elections, with an analysis of the behaviour of the new political groups revealing three distinct currents of opinion. While prior to that year the Parliament was characterized by classic fragmentation with a multitude of small, ideologically independent, and eurosceptic parties, the post-election period brought clearer polarization and the formation of three main ideological blocs.

The first remains the pro-European centrist bloc, formed by the traditional coalition of the European People's Party (EPP), the Socialists and Democrats (S&D), and the weakened liberals of Renew Europe. Opposite this core, however, a single consolidated right-wing bloc failed to emerge; instead, the spectrum fractured into three distinct institutional forces: the newly established Patriots for Europe (PfE) group led by Viktor Orbán and Marine Le Pen, the radical Europe of Sovereign Nations (ESN), and the sovereign yet pragmatic European Conservatives and Reformists (ECR) group of Giorgia Meloni.

This dramatic growth of more radical groups at the expense of the moderate centre (notably the decline of the Renew and Green groups) deepens on the ideological alienation in specific sectoral policies, such as migration or the Green Deal. However, from the perspective of the aggregated Esteban-Ray (ER) index, this institutional fragmentation of the right paradoxically dampens the overall polarization potential of the Parliament.

The structure of mandates in the European Parliament after 2024 demonstrates that while the pro-European core faces unprecedented pressure, the right-wing opposition remains divided. Following the 2024 elections, the traditional centrist alliance (EPP + S&D + Renew) maintained a narrow but stable absolute majority of 401 seats, ensuring a certain degree of continuity.

Alliances within the EP are constantly shifting, regrouping, and adapting depending on the specific topic or legislation being voted on. This indicates a high level of dynamism in coalition potential across the entire political spectrum of the EP. For instance, during the approval of Ursula von der Leyen as President of the European Commission, the centrist core was also supported by the Greens. The second, alternative model is an ad-hoc right-wing coalition. This occurs when the EPP forms an alliance with the ECR, as well as with the radical groups Patriots for Europe (PfE) and Europe of Sovereign Nations (ESN). This shift was noticeable, for example, in November 2025 during the vote on the revision of the Sustainability Omnibus (CSRD) directive.

Table 2 applies the polarization model of J. M. Esteban and D. Ray to the European Parliament, considering the new post-election configuration of the European Parliament in 2024. It demonstrates the transition toward asymmetric and fragmented multipolarity.

Table 2: Comparative Analysis of Asymmetric and Fragmented Multipolarity in the EP After 2024 (ER Model)

Political Dimension / Key EP Groups (2024)	Strength of Group Identification & Internal Fragmentation	Character of Inter-group Alienation & Voting Dynamics	Concrete Impact on Post-2024 Decision-Making
1. Pro-European Centrist Core ***(EPP, S&D, Renew Europe, Greens/EFA)***	**Dominant but structurally weakened identification.** The electoral decline of Renew and Greens reduced the individual group sizes (p_i). Internal cohesion is tested by diverging views on economic competitiveness and Green Deal revisions.	**Asymmetric alienation.** Maintains a strategic capacity to expand alliances leftward to the Greens (e.g., U. von der Leyen's re-election) to bridge ideological distance, while rigidly enforcing a *cordon sanitaire* rightward.	**Institutional continuity via fluid majorities.** Retained a narrow majority (401 seats for the core triad). The center no longer acts as an automatic voting monolith but must constantly construct ad-hoc, issue-specific coalitions.
2. Pragmatic Conservative Pivot ***(ECR - European Conservatives and Reformists)***	**High partial identification.** The group consolidated under G. Meloni's leadership, refusing fusion with the far-right. Its stabilized size maintains a robust, distinct mathematical weight in the ER framework.	**Fluid and low-to-medium alienation.** Acts as an asymmetrical ideological bridge. Exhibits low alienation toward the EPP on defense and fiscal discipline, while maintaining rigid alienation toward the radical left.	**Strategic Kingmaker.** Breaks any potential binary deadlock. By selectively voting with the centrist core on strategic matters, the ECR shifts individual pieces of legislation to the right while isolating hard Eurosceptics.
3. Fragmented Sovereignist Periphery ***(PfE - Patriots for Europe, ESN - Europe of Sovereign Nations)***	**Suppressed identification due to institutional split.** Despite a combined strength of 109 seats, their division into two distinct, competing groups mathematically dampens their identification value in the ER model.	**Maximized ideological alienation.** Total opposition to Brussels centralization, federalism, and the migration pact. Absolute external alienation, structurally sealed by the center's *cordon sanitaire*.	**High blocking potential in ad-hoc voting.** Excluded from executive positions, yet capable of forging temporary alliances with the EPP to stall environmental regulations (e.g., the Sustainability Omnibus vote), showcasing a fluid right-wing axis.

Source: Compiled by the author based on *Compiled by the authors based on the conceptual framework of Esteban and Ray (1994), European Parliament election results (2024).*

Following the 2024 elections, the European Parliament is characterized by asymmetric multipolarity (Table 2), where the degree of ideological alienation varies depending on the issue under discussion. At the same time, the resulting Esteban-Ray polarization index does not grow linearly to a historical high; this is because the institutional division of radical forces into three separate political groups (PfE, ECR, ESN) fundamentally weakens their collective sense of identification and limits their actual executive influence over EU governance.

Conclusion

An analysis of European election results shows that after 2024, the far-right in European politics experienced an upward trend. Populist and far-right forces achieved unprecedented success in the June 2024 elections, collectively securing more than a quarter (approximately 25–26%) of all seats in the European Parliament.

As Mudde notes, "The strengthening of the populist radical right is only the most visible aspect of a more fundamental transformation of European politics" (Mudde, 2019, p. 20).

A certain shift of the political spectrum to the right has occurred, particularly regarding the issues of migration, security, and certain areas of climate policy. The rise of far-right and right-wing populist forces resulted in an increase in their representation and political influence within the European Parliament. However, the pro-European core defended its dominant position, thereby preventing radical right-wing forces from capturing control of the parliament.

From the reached conclusion, we can confirm that an increasingly distinct polarization is taking place within the EP.

The new constellation of forces in the EP does not represent a classic bipolar polarization, but rather a situation that J. Y. Duclos, J. Esteban, and D. Ray (2004) define as latent tension within an asymmetric system (Duclos, Esteban, Ray, 2002). Following the 2024 elections, the European Parliament suffers from fragmented polarization. This means that while alienation is deepening, the ability of radical forces to translate this fact into a unified political bloc is blocked by their own institutional plurality.

In a classic national parliament, a massive electoral gain by radicals leads to the formation of a strong opposition bloc, which divides the political scene into a governing camp and an anti-system opposition, creating bipolar polarization. In the European Parliament, the creation of opposing blocs in this sense did not occur; instead, a phenomenon of fragmented multipolarity manifested itself.

According to J. M. Esteban and D. Ray, polarization depends on the ability of groups to develop a strong sense of internal identification, which is directly linked to their relative size.

The new configuration of radical right-wing factions—Patriots for Europe (PfE) and Europe of Sovereign Nations (ESN)—provided previously fragmented national parties with a firmer institutional foundation, which increased their relative political weight and bonded them around a shared anti-ecological and anti-migration narrative. However, their institutional division into multiple separate groups (PfE, ESN, and the autonomous ECR) in practice limits the strength of their collective, unified group identification.

This assumption is applicable if the European radical right were to unite into a single bloc with 187 seats, as the strength of their identification within the ER model would rise sharply, leading to an increase in polarization. However, the right-wing populists fragmented into three separate, institutionally isolated factions: ECR (78 seats), PfE (84 seats), and ESN (25 seats). This division reduced the mathematical weight of the individual components within the ER model, thereby partially dampening the overall polarization potential of the EP.

Within the right-wing spectrum, a partial ideological alienation is visible based on the principle of ER polarization, which manifests as an internal mutual conflict. The ECR faction (led by Giorgia Meloni) represents a transatlantic, pro-Ukrainian, and economically pragmatic course, whereas the Patriots for Europe (PfE – Orbán, Le Pen) and the most radical ESN (AfD) espouse hard euroscepticism and isolationism. A certain paradox then arises within the right wing itself, where ideological alienation exists not only toward the pro-European center but also among the populist factions themselves.

This ideological alienation is caused by the growing distance between individual right-wing political factions. This distance fluctuates depending on the specific policy issue being addressed in the European Parliament.

The deepening alienation, not only within right-wing factions but across the entire European Parliament, creates a state of permanent latent tension. The resulting post-election reality

thus proves that the far-right is no longer just a marginal phenomenon. However, instead of a rigid division of the European Parliament into two closed blocs, a shifting, conditional multipolarity is occurring, where the boundaries of alliances are constantly rearranging.

The synthesis of the data clearly demonstrates that the European Parliament has become more fragmented and ideologically polarized. Although the center did not collapse, the shift of gravity toward the right introduces far sharper clashes into debates on migration or the Green Deal than the parliament has previously been accustomed to.

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PERCEPTIONS OF RUSSIAN FOREIGN POLICY IN THE SLOVAK MEDIA AFTER 2022

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Abstract: This article examines perceptions of Russian foreign policy after 2022 within the Slovak media landscape, with a particular focus on a comparison between the alternative media outlet *Zem a Vek* and the mainstream news portal Aktuality.sk. Drawing on a qualitative analysis of selected articles, the study identifies differences in the media framing of contemporary Russian foreign policy and the causes of the military conflict in Ukraine. The findings indicate that *Zem a Vek* frames Russia as a defender of traditional values and a victim of Western expansion, while presenting historical and geopolitical developments as legitimizing its actions. In contrast, Aktuality.sk portrays Russia as the aggressor in violation of international law and emphasizes the impact of the military conflict on the civilian population and regional security. The article demonstrates that a media outlet's ideological orientation is a key determinant in shaping representations of the Russian Federation and its foreign policy within Slovak media discourse.
Keywords: Russian foreign policy, military conflict in Ukraine, disinformation media
JEL Classification: F50, F51, F59

Introduction

Since the outbreak of the military conflict in Ukraine in 2022, Russia has become the focal point of intense political and media discourse. The manner in which the media construct the image of the Russian Federation's foreign policy significantly shapes public perceptions of the conflict, with different media platforms presenting divergent, and at times contradictory, narratives. From the perspective of media studies, these narratives constitute forms of framing, whereby selected aspects of reality are emphasized and interpreted in accordance with particular ideological or political perspectives (Entman, 2003; Sashchuk & Tovmash, 2025; Reese et al., 2001). The Slovak media landscape is characterized by the coexistence of mainstream and alternative media, which present foreign policy issues in markedly different ways. While mainstream media emphasize fact-checking, professional journalistic standards, and a plurality of sources, alternative media often foster polarization and promote selective interpretations of reality (Kapec, 2023). According to Radošinská (2016), the general designation of "alternative media" has increasingly acquired negative connotations, as "a substantial proportion of representatives of so-called 'alternative journalism' deliberately and intentionally disseminate half-truths, alarmist reports, fabricated information, and conspiracy theories" (p. 17).

The primary objective of this study is to identify and compare the ways in which Russian foreign policy after 2022 is constructed within the Slovak media landscape. The study employs a qualitative analysis of narratives presented by the alternative media outlet *Zem a Vek* and the mainstream news portal *Aktuality.sk*, examining their portrayal of Russian foreign policy, their interpretation of the causes of the military conflict in Ukraine, and their representation of Western countries.

The main research question (RQ) asks how Russian foreign policy after 2022 is constructed within the Slovak media landscape, as illustrated by the selected media outlets.

To address this question, the study is guided by several subsidiary research questions corresponding to the analytical categories of the coding framework. The first research question (RQ1) examines which narratives about Russia dominate the selected media outlets and how Russia is portrayed in terms of its values, political orientation, and position as an international power. The second research question (RQ2) investigates how the causes of the military conflict in Ukraine are interpreted in media coverage, particularly with regard to NATO enlargement, the concept of the "denazification" of Ukraine, and the geopolitical interests of Western countries.

The analysis of these narratives provides a deeper understanding of the mechanisms through which foreign policy is constructed in the media and offers an empirical basis for examining disinformation, ideological framing, and the polarization of public discourse within the Slovak media environment.

1 Political science definition of the East and West

The concepts of the "East" and the "West" represent far more than geographical designations in political and media discourse. Rather, they are historically and ideologically constructed categories encompassing distinct sets of values, political systems, cultural characteristics, and power relations. Within the context of mass media communication, these concepts function as symbolic frames through which global events, conflicts, and political identities are interpreted.

According to Pattberg (2013) and Kawada (2003), the East–West dichotomy can be traced back to ancient Greece. A pivotal moment in its formation was the Greco-Persian Wars of the fifth century BCE, during which the Greeks began to define themselves in opposition to the Persian Empire as the "Eastern" world. This distinction was primarily political, cultural, and normative rather than geographical. In *The Histories* (*Historiai Apodeixis*), the Greek historian and geographer Herodotus describes the Greco-Persian Wars as a conflict between the free Greek city-states and the authoritarian Persian monarchy. He also emphasizes that the Persians themselves regarded their empire as culturally and politically distinct from the Western, Greek world: "The Persians claim Asia and the barbarian nations that inhabit it, while they regard Europe and the Greek world as separate from themselves... They trace their historical hostility toward the Greeks to the attack on Troy" (Herodotus, 1858, p. 157). This opposition between the Greek city-states and the Persian Empire established an early model of civilizational division that continued to evolve throughout history.

During the Middle Ages, and particularly in the early modern period, the concepts of the East and the West also acquired a religious dimension. Following the collapse of the Western Roman Empire in the fifth century and the emergence of the Byzantine Empire, East and West became differentiated not only politically but also ecclesiastically. The West came to embody Catholicism and Latin culture, whereas the East represented the Greek-Byzantine tradition. This division was formally institutionalized through the Great Schism of 1054, which separated Christianity into the Roman Catholic and Eastern Orthodox Churches. Medieval European thought frequently portrayed the East as a foreign and exotic realm distinguished by different philosophical traditions, customs, and political institutions. The Crusades (eleventh to thirteenth centuries), for example, reinforced the image of the East as a region that was morally, religiously, and culturally distinct from the West. At the same time, the Orient came to symbolize the unknown, associated with threat, exoticism, and "barbarism," while the West increasingly constructed itself as the bearer of civilization and Christian values (Karimi, 2021).

In the modern era, particularly during the Cold War, this framework acquired a new political and ideological significance. The Western bloc became associated with democracy, the market economy, and individualism, whereas the Eastern bloc was identified with

socialism, collectivism, and authoritarian political systems. Although the bipolar division of the world formally disappeared after 1989, its legacy continues to shape political rhetoric and media representations.

According to Krno (2016), proponents of Western values typically associate the West with liberal democracy, individual freedom and responsibility, personal initiative, pragmatism, multicultural tolerance, a prosperous market economy, technological advancement, and political stability. By contrast, the East is often portrayed as the antithesis of these ideals—as the cradle of authoritarianism, enforced collectivism, passivity, cultural intolerance, economic and technological backwardness, impracticality, chaos, civil and regional conflicts, and unpredictable violence (Krno, 2016, p. 116). Conversely, critics of the West emphasize what they perceive as excessive individualism, a sense of superiority, the pursuit of freedom and prosperity primarily for one's own benefit, militarism, neo-colonial ambitions disguised as humanitarian assistance, insincerity, the creation of an artificial social order, dependence on past achievements, and spiritual emptiness (Krno, 2016, p. 116). From this perspective, the West is depicted as a morally weak capitalist dystopia. In contrast, the East symbolizes a closer relationship with nature, proximity to humanity's original essence, and a source of spiritual inspiration. It is portrayed as a more authentic and healthier society, grounded in the values of family, culture, and tradition (Krno, 2016, p. 116).

2 Qualitative analysis of the framing of Russian foreign policy in the monthly magazine Zem a Vek and on the news portal Aktuality.sk

This chapter outlines the methodological foundations of the qualitative analysis of the framing of Russian foreign policy in the monthly magazine *Zem a Vek* and the news portal *Aktuality.sk*. Its purpose is to describe the analytical procedure through which the interpretative frames employed in the selected media outputs were identified and examined.

The content analysis was based on the concept of *news frames* developed by Semetko and Valkenburg (2000). The authors identified five common ways in which the media present political and social issues. The Attribution of Responsibility Frame focuses on identifying who is held responsible for the emergence of, or solution to, a particular problem, whether an individual, a social group, an organization, or a government. The Conflict Frame emphasizes disagreements and confrontations between actors, such as political parties or states, thereby increasing audience engagement, although it may also contribute to public cynicism toward political actors. The Human Interest Frame personalizes events by highlighting their impact on individuals and frequently employs emotionally charged narratives to foster empathy and audience engagement. The Economic Consequences Frame presents the financial or economic implications of an event for individuals, businesses, or society as a whole. Finally, the Morality Frame interprets events or issues through the lens of moral, ethical, or religious values. The application of the *news frames* framework provides a systematic approach to examining how media construct narratives and shape public perceptions of political and social issues.

2.1 Coding frame

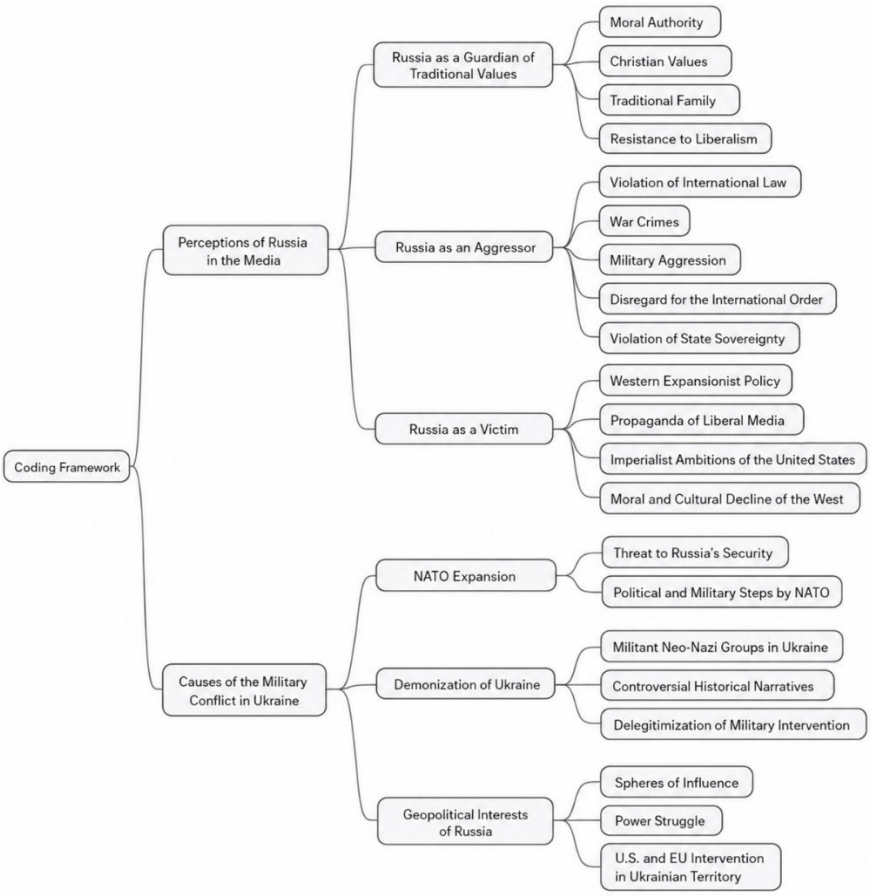
The coding framework serves as a tool for the systematic identification and classification of meaning units within textual data. Schreier (2012, p. 61) defines it as "a way of structuring the material. It consists of main categories that specify the relevant aspects, and subcategories for each main category that specify the relevant meanings pertaining to these aspects." For the purposes of this study, the coding framework was developed on the basis of previous literature on media framing and the discourse of international politics, with particular emphasis on the representation of Russia, the causes of the conflict in Ukraine, and portrayals of the West in the Slovak media environment.

The framework consists of two main categories and six subcategories, which are defined as follows:

1. **Media Perceptions of Russia**
    a) **Russia as the Defender of Traditional Values** – Texts construct the Russian Federation as a moral authority that defends traditional values against the decadent ideology of the West. Indicators of this narrative include references to Christian values and the traditional family, opposition to liberalism, and concerns about the spread of "LGBT ideology" and "gender ideology".
    b) **Russia as the Aggressor** – Texts present Russia as an aggressor that violates international law and commits war crimes. The West is constructed as the bearer and protector of a rules-based international order grounded in international law and respect for state sovereignty. It is portrayed as a guarantor of peace, collective security, and the protection of the sovereignty of smaller states, with its actions legitimized through references to international agreements, democratic values, and the need to preserve the global order.
    c) **Russia as a Victim** – Russia is portrayed as a victim of the expansionist policies of the West and the propaganda of liberal media. The West is constructed as an imperialist, aggressive, and hypocritical actor that interferes in the internal affairs of other states and violates international norms. It is also framed as a source of moral and cultural decline, while Russia is contrasted as the bearer of traditional values.

2. **Causes of the Military Conflict in Ukraine**
    a) **Expanzia NATO -** NATO Expansion – The conflict is interpreted as a consequence of NATO's political steps, which are presented as threatening Russia's security. In the analyzed media outputs, the military conflict in Ukraine is frequently interpreted as the result of long-term political and security actions by NATO, which are portrayed as a direct threat to the strategic interests and security of the Russian Federation.
    b) **Denazification of Ukraine** – The legitimization of Russian military actions through discourse on militant neo-Nazi groups in Ukraine. There is also frequent argumentation based on controversial figures in Ukrainian history and their crimes, used to justify the current military conflict.
    c) **Russia's Geopolitical Interests** – The conflict is framed as part of a broader geopolitical struggle over spheres of influence between Russia and the West, particularly the United States and the European Union. In this context, Ukraine is presented as a strategic space in which competing security, economic, and political interests of global actors intersect.

Figure 1: Graphical representation of the coding framework



Source: custom processing

3. Framing of Russian Foreign Policy in the Slovak Media Space After 2022

The year 2022 represented a turning point for European and global politics, as the conflict in Ukraine and its consequences significantly affected international relations. The Slovak media landscape responded to these events in diverse ways, with news portals, television broadcasts, and print media seeking to inform the public about the actions of the Russian Federation, the responses of the international community, and the impacts of the conflict on Slovakia and the EU. To illustrate the differences between alternative and mainstream media, two representative platforms were selected: the alternative media outlet *Zem a Vek* and the mainstream news portal *Aktuality.sk*.

3.1 Russia as a guardian of traditional values

In the alternative media outlet Zem a Vek, Russia is portrayed as a country that seeks to protect traditional values from the influence of liberalism and feminism, and in which the protection of the "traditional" family is a political priority. An example frequently cited is the Day of Family, Love, and Fidelity, a state holiday supported by the current political leadership.

"Tomorrow in Russia, for the seventeenth time officially and for the third time at the highest state level, as a public holiday, they will celebrate the Day of Family, Love, and Fidelity. Traditionally, mass celebrations, thematic exhibitions, festivals, and concerts will be held across the country, and as part of the tradition, on this very day thousands upon thousands of Russian couples will enter into marriage... Throughout the country, authorities award

married couples who have lived together for more than 25 years with medals 'For Love and Fidelity'. This medal was established by the organizing committee for the Day of Family, Love, and Fidelity in the Russian Federation. On the reverse side, a chamomile flower is depicted; the obverse side is decorated with the faces of Peter and Fevronia[1] and the motto 'For love and fidelity to the family'. In addition to medals, laureates receive valuable gifts from local authorities corresponding to the family theme" (Rusnák, 2024).

Special emphasis is placed on the protection of children from "LGBT ideology" or "gender ideology." In articles published by *Zem a Vek*, the LGBT community is not represented as a group of individuals with a minority sexual orientation, but rather as an ideological movement seeking to influence or even exploit minors. Hate speech against persons with minority sexual orientations is highly widespread in the Russian media space (Usanova, 2025; Lipps & Voeten, 2025; Buyantueva, 2017) and is also reproduced in many Slovak alternative media outlets. Restrictions on the rights of LGBT persons in the Russian Federation began as early as 2013 with the adoption of laws "on combating the propaganda of homosexuality among minors." This was followed by a 2022 law that completely banned the "propagation of LGBT ideology." In 2023, legal and surgical gender reassignment was banned in Russia, and the "international LGBT movement" was designated as an extremist organization (Lipps & Voeten, 2025).

Hate rhetoric against LGBT persons in Russia is disseminated by high-ranking state officials as well as by the Russian Orthodox Church. President Putin argues that his negative stance toward people with minority sexual orientations "stems from his duty—as head of state—to protect traditional family values, since same-sex relationships cannot lead to the birth of children" (ECRI, 2019, p. 16). A similar position is held by the leading representative of the Russian Orthodox Church, Kirill I, Patriarch of Moscow and All Rus'. He further considers the legalization of same-sex marriage to be "a very dangerous sign of the apocalypse" (ECRI, 2019, p. 16), and describes LGBT pride parades as "a symbol of Western liberal values that lead to the destruction of civilization" (Buyantueva, 2024, p. 9).

Views closely aligned with the official Russian narrative on "LGBT ideology" are repeatedly found in articles of the monthly magazine *Zem a Vek*. For example, in the article Moscow will harshly punish the propaganda of the "Childfree" movement and all "gender perversions" (2024), the author emphasizes that "sometimes fewer certain things are better than more… For example, in some cases it is better to have fewer 'freedoms and democracy' than more. Especially when democracy is confused with chaos and disorder, freedoms with the violation of thousand-year-old laws, traditions, customs and logical development, and harmful 'liberal solutions' are presented as the most progressive and appropriate ones, even though they are their exact opposite" (Rusnák, 2024). At the same time, the article highlights that the Russian Federation does not succumb to modern trends and seeks to maintain traditions: "In some countries they do not want to follow the 'modern trends of Western civilization' and prefer traditional, perhaps more conservative, but more logical and appropriate conduct. For example, in Russia... In the largest country in the world they somewhat refuse 'liberal novelties' in the form of 'foreign agents'. The Russian leadership and the vast majority of the population are not at all pleased with Western gender engineering and also disagree with other transatlantic 'modern trends'" (Rusnák, 2024).

The author of the article, Eugen Rusnák, is, according to findings by Infosecurity.sk and Denník N, directly linked to the Russian media group *Rossiya Segodnya* ("Russia Today"), which is funded by the Kremlin (Šnídl, 2018). In his texts, he frequently uses expressive and emotionally charged language (e.g. chaos, mess, foreign agents) and apocalyptic imagery (e.g.

[1] Peter and Fevronia are Eastern Orthodox saints, regarded in the tradition of the Russian Orthodox Church as protectors of marriage, love, and family.

the collapse of civilization).[2] Similar strategies are typical of state-supported media outlets in Russia, where disinformation and ideological propaganda are intertwined with religious and nationalist discourse (Lipps & Voeten, 2025).

In contrast, mainstream media such as the news portal *Aktuality.sk* frame Russian legislation concerning the rights of LGBT persons as repressive and discriminatory. Unlike the alternative media outlet *Zem a Vek*, they reject arguments based on the protection of the traditional family or the protection of children from "LGBT ideology." As an example, a report on the ban of the "international LGBT movement" in Russia states: "This is the latest step in Russia's long-standing effort to restrict the LGBTQ community, who are considered by the authorities to have 'non-traditional' sexual orientation and gender identities... Since the beginning of the invasion of Ukraine, often portrayed as an existential struggle against Western liberal values, Russia has intensified its campaign against LGBTQ groups. 'Russian authorities once again forget that LGBT people are human beings,' said Dilya Gafurova, head of the LGBTQ group Sphere. 'The authorities do not want only to erase us from public space: they want to ban us as a social group,' Gafurova added" (*Aktuality*, 2023).

The analysis of linguistic devices shows that the article employs a victim–perpetrator frame: LGBTQ individuals are portrayed as a marginalized and dehumanized group, while Russian authorities are positioned as an authoritarian actor depriving them of fundamental human rights. The quotation by Dilya Gafurova, head of the LGBTQ organization Sphere, highlights systematic marginalization and dehumanization: "Russian authorities once again forget that LGBT people are human beings." Such language constructs a victim–aggressor frame, and emotionally charged expressions are intended to elicit empathy from the reader (Absattar et al., 2022). This media framing is further reinforced by the selection of sources. By citing a representative of the LGBTQ+ community, *Aktuality.sk* provides the perspective of victims. At the same time, the terminology used by Russian authorities ("non-traditional sexual orientation and gender identities") is presented with a critical distance.

3.2 Russia as an aggressor or a victim?

Alternative media often construct narratives about geopolitical events through selective use of facts and emotionally charged language (Kapec, 2023). In the article *Centuries-Long Efforts of the West to Divide and Destroy Russia and the Genocide of the Slavs* (2024), the author interprets the Nazi Germany attack on the Soviet Union as one of many attempts by the West to divide and destroy Russia: "Tomorrow marks 83 years since, on 22 June 1941, Nazi Germany attacked the Soviet Union. It was one of many attempts by the West to divide and destroy Russia and to commit a brutal genocide of the Slavs. Attempts to divide and effectively eliminate Russia continue even today" (Rusnák, 2024).

This text contrasts the West as the aggressor with Russia as the victim, thereby employing a classic Conflict Frame typical of pro-Russian media narratives. The Conflict Frame highlights disagreements or disputes between two or more parties (e.g. groups, states, political actors). It presents events as a struggle between opposing forces and often reduces complex issues to a binary "us vs. them" opposition (Semetko and Valkenburg, 2000; Bjarnøe, 2021). Statements such as "[Russia] has faced countless attacks from Western civilization" and references to alleged plans to partition the Russian Federation are presented as facts, although they are not supported by verifiable evidence. Such linguistic strategies rely on generalizations and emotional conclusions, portraying Russia as a victim of an international conspiracy. The historicization of events further creates a narrative of

[2] The author's real name is Jevgenij Paľcev. Eugen Rusnák is a pseudonym under which this author publishes articles in the monthly magazine *Zem a Vek* and on the alternative news portal *Hlavné správy*.

continuity, linking past and present into a single linear story of threat. This approach enables readers to perceive complex geopolitical developments as a simple conflict between good (Russia) and evil (the West).

In relation to the military conflict in Ukraine, the author writes: "Is it just for fun that a map with another plan to divide Russia hangs in the office of the head of the Main Intelligence Directorate of the Ukrainian Ministry of Defense, Kyrylo Budanov? According to the latest plan of members of the 'Western civilization,' Kaliningrad should go to Germany; Karelia and Murmansk to Finland; a so-called 'independent' Central Asian republic should be created; the United States and China should obtain the entire Far East; Japan would 'take' Sakhalin and the Kuril Islands; the Caucasus should be transformed into a 'Great Ichkeria'; Ukraine would obtain vast territories—from Kaluga to Kuban" (Rusnák, 2025).

The author links events of the Second World War with contemporary alleged Western efforts to destabilize Russia. At the same time, a moral frame is employed, evaluating Western actions as genocidal and "brutal." The Morality Frame "places an event, problem, or issue within the context of religious doctrines or moral principles" (Semetko and Valkenburg, 2000, p. 96). Due to professional norms of objectivity, journalists often refer to moral frames indirectly, for example through quotations or deductions (Neuman et al., 1992; Semetko and Valkenburg, 2000). However, in the article *Centuries-Long Efforts of the West to Divide and Destroy Russia and the Genocide of the Slavs*, the moral frame is presented openly and explicitly designates Russia as a victim of Western aggression. The text also normalizes a conspiratorial frame, interpreting both historical and contemporary events as part of a long-term plan. The implicit message is that Russia is continuously under threat and must defend itself. This narrative simultaneously legitimizes Russia's current political and military actions in Ukraine as defensive and necessary.

In the article *"A country of war crimes has abducted more than 19,000 Ukrainian children and is turning them into weapons"*, published on the Aktuality.sk portal, a Conflict Frame is also used, but Russia is here portrayed as the aggressor and Ukraine as the victim. The entire narrative is constructed through emotionally charged accounts of Ukrainian children who were abducted and subjected to psychological pressure in Russian integration camps. Russia is explicitly labeled in the title of the article as a "country of war crimes." The text also includes the tragic story of two brothers who "had their minds washed by the Russians until they turned against their own army on the Ukrainian front in 2022. In the first waves of the Russian offensive, both brothers died after turning their weapons against their homeland—Ukraine" (Aktuality.sk, 2025).

The moral frame is present in the text but is mediated indirectly through victim testimonies and descriptions of the consequences of violence. This approach corresponds to professional journalistic norms, where evaluation is implicit and derived from presented facts rather than explicit ideological claims (Bjarnøe, 2022). At the same time, a Responsibility Frame is also evident. The Responsibility Frame presents an issue in such a way that responsibility for its cause or solution is attributed either to a government, an individual, or a group (Semetko and Valkenburg, 2000, p. 96). The article clearly assigns responsibility for the suffering of children to Russia. This frame creates a direct causal link between Russian actions and the psychological, social, and physical consequences experienced by Ukrainian children subjected to integration camps. While *Aktuality.sk* uses this frame to assign responsibility for concrete actions (child abductions, training camps), *Zem a Vek* operates with a diffuse attribution of blame to the collective "West."

3.3 Causes of the military conflict in Ukraine

In the official rhetoric of the Kremlin, one of the main justifications for the Russian

military invasion of Ukraine is the so-called "denazification" of the neighboring state—a term used by Russian leadership to refer to its alleged aim of removing nationalist or extremist elements from public life and the political sphere (Belot, 2025; Bagdasaryan, 2022). In the February 2022 speech in which Russian President Vladimir Putin announced the start of the "special military operation," he justified its objectives by stating that, in addition to "demilitarization," it was necessary to "strive for the denazification of Ukraine." According to Belot (2025, p. 60), "the anachronism of alleged denazification is a clear example of manipulation, the use of pure mystification or even distant history to justify actions related to present problems, in order to accuse opponents of unlawful conduct. By using 'Nazism' as a weapon against Ukraine, Putin constructs Russia as a model of anti-Nazism."

"Ukraine could have avoided, often legitimately, criticism for its attempts to rehabilitate and defend historical figures that are in contradiction with the values of the countries that are now helping it in its fight against Russia" (Belot, 2025, p. 66). Although criticism of controversial figures in Ukrainian history is in many cases justified, in Russian official narratives and pro-Russian media it is presented in a selective and simplified manner. Historical grievances are simultaneously used as an argument for contemporary military intervention.

The editorial office of *Zem a Vek* published an article titled *Actress Jaroslava Obermaierová: Ukrainians killed Russian children, Banderites are fascists*, which contains an interview with Czech actress Jaroslava Obermaierová. Obermaierová "during the celebrations of the 80th anniversary of the end of the Second World War participated in a peace demonstration held in Prague. Participants called for an end to armament and also for the normalization of relations with the Russian Federation. The 79-year-old actress got into a verbal confrontation at these celebrations with pro-Ukrainian provocateurs who came here to oppose everything they possibly could" (*Zem a Vek*, 2025). The very title and introduction of the article already present Ukraine as the aggressor and Russia as the victim. The claim "Ukrainians killed Russian children" represents a typical example of a moral frame that evaluates events through ethical condemnation of the opponent (Semetko & Valkenburg, 2000). Obermaierová further emphasizes that mainstream media remain silent about crimes allegedly committed against the Russian minority: "I am surprised that this is not known. That it is not talked about here. In the Luhansk or Donetsk region, where a strong Russian-speaking minority lives, Ukrainians massacred and murdered Russian children. They even have small graves there, a memorial, the Alley of Angels. In Odesa, Russians were also burned alive." (Obermaierová, cited in *Zem a Vek*, 2025). Although this claim is not supported by verifiable evidence, it implicitly legitimizes the military invasion of Ukraine as a necessary and just retaliation for these crimes. The aforementioned Alley of Angels is a memorial for children who died as a result of the armed conflict in Donbas. It is located in the Culture and Recreation Park in Donetsk (Komar, 2021). According to Demus et al. (2023), this memorial is often used in Russian propaganda, which claims that the victims are of Ukrainian aggression against the Russian minority living in eastern Ukraine.

In the introduction of the article, the peace demonstration during the 80th anniversary of the end of the Second World War in Prague is presented as a pro-Russian initiative, with emphasis placed on the demand for the "normalization of relations with the Russian Federation" and criticism of armament. The text implicitly associates Western states with responsibility for supporting and prolonging the conflict by supplying weapons and ammunition to Ukraine. The author also uses a Conflict Frame when describing that the actress got into a verbal confrontation with "pro-Ukrainian provocateurs" who came "to oppose everything they possibly could." This depiction presents the opposing side as confrontational, thereby implicitly constructing a polarized worldview: peaceful pro-Russian

citizens versus provocative and aggressive pro-Ukrainian groups. The language is strongly evaluative and creates an emotionally charged depiction of the conflict.

In contrast to the claims presented by *Zem a Vek*, articles published on the *Aktuality.sk* portal attempt to refute the narrative of genocide against the Russian population in Donbas. Reporter Stanislava Harkotová (2022), in an interview for *Aktuality.sk*, states: "People in Donbas were dying. But they were dying as a result of fighting between the Ukrainian army on one side and Russian proxy units and directly Russian armed forces on the other. Not because anyone was deliberately exterminating them because of language. In 2015 and 2016, the fighting gradually subsided to the contact line... What does present-day Mariupol look like, completely destroyed by Russian aviation and Russian tanks? And what does Donetsk look like after eight years of so-called 'genocide'?" (Harkotová, 2022).

In the article *The Vision of a Multipolar World by Vladimir Putin* (2022), published on the *Zem a Vek* portal, it is stated that "NATO continues to expand at the expense of Russian national security interests. Ukraine, as one of the largest former Soviet republics, soon became a focal point of potential conflict." The expansionist policies of the USA and NATO are described as a threat to which the Russian Federation had to respond militarily. "The USA openly interfered in Ukrainian politics, including frequent visits by the tireless hawkish senator John McCain and the figure from the State Department Victoria Nuland, as well as a $5 billion investment to destabilize the situation, which led to a regime change aimed at removing the pro-Russian government of Viktor Yanukovych and replacing it with a government friendly to the United States and its European allies. When this happened, it inevitably led to the proposal of inviting Ukraine to join NATO, a step which Moscow repeatedly warned would represent an existential threat to Russia itself" (*Zem a Vek*, 2022). The text employs a Responsibility Frame by interpreting political developments in Ukraine as the result of direct US intervention. The naming of specific individuals such as John McCain and Victoria Nuland, along with the claim of a "$5 billion investment to destabilize the situation," serves to personalize blame and reinforce the perception of deliberate foreign manipulation. This approach reduces Ukraine's internal political processes to the outcome of external US interference. The belief that Western states are responsible for the military conflict in Ukraine is also presented by Rusnák (2025) in the article *Nothing New in the West, Unfortunately, Nor in the East*. He emphasizes that "transatlantic Western warmongers demand war against Russia, of course through foreign hands, according to the well-known slogan – 'to the last Ukrainian.' The Banderite government in Kyiv holds the same view on the destruction of its own nation and approves the continuation of the armed conflict in the coming years" (Rusnák, 2025).

In contrast to *Zem a Vek*, which frames the military conflict in Ukraine as a necessary defensive response by Russia to the expansionist policies of Western states and Ukraine, the mainstream media outlet *Aktuality.sk* clearly identifies the Russian Federation as the aggressor. *Aktuality.sk* typically uses terms such as "Russian invasion," "Russian aggression," and "war in Ukraine," thereby avoiding linguistic constructions that would question the nature of the conflict or legitimize the official Russian narrative (e.g. "special military operation"). They publish reports criticizing Kremlin policy, including claims regarding denazification. In the article *Russia Wants to Denazify Ukraine with the Help of Neo-Nazis*, it is stated that "President Putin repeatedly claims that the aim of the Russian invasion of Ukraine is its denazification. However, his own military units are linked to neo-Nazi groups such as the Wagner Group and Task Force Rusich... The group is known for its neo-Nazi symbols, including the kolovrat, which is a Slavic equivalent of the swastika. Its members are accused of war crimes, including the torture and execution of Ukrainian prisoners" (*Aktuality.sk*, 2025). The author emphasizes that although Russian propaganda accuses Ukraine of neo-Nazism, "its own units participating in the invasion are linked to

neo-Nazi ideologies and symbols" (*Aktuality.sk*, 2025). The kolovrat symbol is not inherently neo-Nazi and is also used by supporters of Slavic neopaganism in a religious context not connected to extremist ideology (Chistyakov, 2023; Omonov, 2025). However, it is also frequently used by militant neo-Nazi groups as a symbol of "Slavic pride" (Omonov, 2025).

Aktuality.sk clearly identifies Russia as the aggressor, uses precise terminological frames ("Russian invasion," "Russian aggression"), and seeks to refute pro-Russian narratives, for example claims of genocide against the Russian minority in Donbas. In most cases, they rely on verifiable facts or at least on testimonies from witnesses or recognized experts. The language of the articles (and reports) often has a value-laden or dramatic tone (Hrehov, 2009; Strattrucker, 2009).

Conclusion

The analysis of media outputs from the alternative monthly magazine *Zem a Vek* and the mainstream news portal *Aktuality.sk* revealed significant differences in the framing of Russian foreign policy after 2022. The aim of the study was, based on a qualitative analysis of texts, to answer the main research question: how is Russian foreign policy after 2022 constructed in the Slovak media space using the example of *Zem a Vek* and *Aktuality.sk*. The analysis shows that the construction of Russian foreign policy in the Slovak media environment is not uniform but strongly depends on the value-ideological framework of each individual medium. *Zem a Vek* presents Russia as a legitimate defender of traditional values and Slavic identity, placing emphasis on historical and geopolitical contexts that justify its actions. In contrast, *Aktuality.sk* portrays Russia as an aggressor violating international law, with media narratives emphasizing the impacts of its actions on civilians, regional security, and global relations.

Regarding the first sub-question (RQ1), which focused on dominant narratives and the presentation of the Russian Federation, the results show that *Zem a Vek* frames Russia as a defender of traditional values (i.e. Christian values and the traditional family) and of a natural Slavic cultural identity, with its actions legitimized through historical context (e.g. the crimes of Stepan Andriyovych Bandera and Roman Shukhevych). In contrast, *Aktuality.sk* portrays Russia as an aggressor and violator of international law, with emphasis on the consequences of its actions for civilians and global security.

The second sub-question (RQ2), examining interpretations of the causes of the conflict, reveals that *Zem a Vek* emphasizes external factors, particularly NATO expansion and the geopolitical interests of the United States and the European Union, thereby presenting Russia as a legitimate defender or even a victim of Western imperialism. Frequent references are also made to the alleged genocide of the Russian minority in Donbas and the presence of militant neo-Nazi groups in Ukraine. *Aktuality.sk*, on the other hand, emphasizes Russia's direct responsibility for the military aggression, providing facts that enable critical evaluation of the conflict as well as testimonies from witnesses or victims affected by the war.

Russian foreign policy after 2022 is constructed in a differentiated manner within the Slovak media space: its perception is conditioned by the ideological and value orientations of individual media outlets. Alternative media emphasize the legitimization of Russia as a defender of traditional values conducting a defensive "special military operation" on the territory of Ukraine, whereas mainstream media interpret its actions critically and focus on the consequences for the international order and civilian population. Overall, it can be concluded that the Slovak media space provides a diversity of interpretations of Russian foreign policy, with ideological orientation of media being a key determinant of how the Russian Federation and its policies are presented to the public.

However, in interpreting the results, it is necessary to consider that the research was conducted on only two selected media outlets. This means that the findings reflect the characteristics and frames of these specific media and cannot automatically be generalized to the entire Slovak media landscape. Nevertheless, we believe that the results of our study provide a solid foundation for further research and may serve as a basis for more comprehensive studies of the media representation of Russian foreign policy in Slovakia.

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SECTION II
CURRENT ISSUES OF WORLD ECONOMY

INSTITUTIONS, ECONOMICS, AND FOREIGN DIRECT INVESTMENT: A SYSTEMATIC REVIEW OF THEORETICAL FOUNDATIONS [1]

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Abstract: While traditional theoretical approaches have emphasized economic determinants of foreign direct investment (FDI) allocation a growing body of literature suggests that institutional factors may explain a substantial portion of FDI variation across countries. This paper provides a comprehensive systematic review of FDI theories with particular emphasis on institutional determinants. We synthesize theoretical developments from neoclassical perfect-market assumptions to contemporary institutional approaches, examining how political stability, governance quality, tax policy, regulatory environment, property rights, and corruption influence investment decisions. Literature review identifies that institutional quality is not merely a supplementary factor but a fundamental determinant that conditions the effectiveness of traditional economic drivers. Our analysis reveals that institutional effects are context-dependent, vary by development level and sector.

Keywords: foreign direct investment, institutional determinants, systematic literature review, FDI theories, governance quality, political stability
JEL: F21, P48

Introduction

Foreign direct investment (FDI) has emerged as a critical factor in economic development, with its role becoming particularly important in the context of globalization processes and the digitalization of international capital movements (Zhang, Masron & Lu, 2024). According to UNCTAD (2026), global FDI flows reached $1.6 trillion in 2025, serving as a vital source of capital, technology transfer, and productivity enhancement for both developed and developing economies. Understanding the drivers of these investment flows is therefore essential for policymakers seeking to attract FDI and harness its developmental benefits. Despite the proliferation of FDI theories over the past half-century, traditional approaches have predominantly emphasized economic determinants – market size, labor costs, natural resources, and rates of return. However, recent estimates suggest that only about one-fifth of FDI variation can be explained solely by economic factors (Sparks, Desai & Thirumurthy, 2014), indicating substantial gap for institutional explanations. This realisation has prompted growing scholarly attention to the role of institutions in shaping investment decisions (North, 1990).

In this text we provide a comprehensive systematic review of FDI theories with particular emphasis on institutional determinants. Therefore, we address three research

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questions. Firstly, what institutional determinants have been identified as significant influences on FDI flows, and what is the theoretical background? Secondly, how do institutional determinants interact with traditional economic factors, and how do these relationships vary across development levels and sectors? At last but not least, what implications do these theoretical insights have for policymakers seeking to attract FDI? To fullfill the stated purpose we employ a systematic literature review (Petticrew & Roberts, 2006). To capture the development of FDI theory from its early foundations to modern institutional perspectives a thorough search was performed across indexed databases, covering publications from 1960 to 2024.

1 Brief review of FDI theories

This section provides a comprehensive overview of the theoretical explanations for FDI, tracing the evolution of thought from simple financial models to complex, multi-faceted paradigms. The earliest explanations of FDI allocation is rooted in neoclassical trade theory that viewed investment as international capital movement driven by differences in interest rates (Faeth, 2009). The hypothesis of differential rates of return posits that capital flows from capital-abundant countries with low interest rates to capital-scarce countries with higher returns. Later extensions, like Aliber's (1970) currency area hypothesis, incorporated currency risk, suggesting that firms raise funds in strong-currency countries and invest in weaker-currency ones. However, this approach is criticized for its unrealistic assumptions of perfect markets and risk absence, and its failure to explain two-way flows between developed countries or FDI from developing nations. Building on this, the portfolio diversification hypothesis (Agarwal, 1980; Moosa, 2015) adds risk as a key factor, arguing that firms diversify their investment portfolios to manage risk. While more realistic, it doesn't explain why firms choose FDI over simpler portfolio investments. This gap is addressed by noting that FDI offers control in imperfect or underdeveloped markets, a feature portfolio investment lacks. Despite its theoretical appeal, empirical evidence for this hypothesis remains weak and inconclusive.

The market size theory (Lizondo, 1990) offers a different perspective, suggesting that FDI is attracted to host countries with large economies (measured by GDP), as firms invest to serve growing demand. A related microeconomic view, the output size hypothesis, links FDI to a firm's own sales volume. While empirically supported, these theories are criticized for not distinguishing between FDI for local sales and FDI for export platforms, and for incorrectly applying domestic investment logic to foreign investment.

A major theoretical leap came with theories assuming imperfect markets. Stephen Hymer's theory of industrial organization argues that foreign firms face inherent disadvantages (e.g., language, culture) compared to local firms (Hymer, 1976). To overcome these, they must possess specific competitive advantages like patented technology, brand recognition, or superior management skills. However, this theory doesn't explain why firms use FDI specifically to exploit these advantages rather than exporting or licensing. The theory of internalization (Buckley & Casson, 1976) answers this by suggesting that imperfect external markets for intermediate inputs make it costly and inefficient to use them. Firms therefore create internal markets by acquiring or building foreign subsidiaries, a process called internalization, to reduce transaction costs and maintain control. The theory of oligopolistic reaction (Knickerbocker, 1973; Graham, 1975) explains FDI as a defensive move. In concentrated industries, firms invest in a competitor's home market to counteract their moves and prevent them from gaining a dominant position. The location hypothesis returns to factor endowments, focusing on the immobility of resources like labor and natural resources. FDI is thus directed to countries with lower wages or abundant raw materials. Empirical results on the importance of wage levels are mixed, with some studies confirming its significance (Love & Lage-Hidalgo, 2000) and others finding a negligible effect (Yang, Groenewold & Tcha, 2000).

Synthesizing these ideas, John Dunning's eclectic theory (OLI paradigm) is the most comprehensive framework (Dunning, 1977). It integrates three key advantages, including (1) Ownership (firm-specific advantages); (2) Location (country-specific advantages); (3) Internalization (the advantage of using internal hierarchies over external markets). FDI occurs only when all three conditions are met. While highly influential, it is criticized for being too broad for precise empirical testing and for assuming the advantages are independent of each other.

Vernon's (1966) product life cycle theory provides a dynamic, stage-based model. It posits that a product's production location evolves with its life cycle: innovation and initial production occur in a high-income home country (new product), then production shifts to other developed countries as the product matures (maturation), and finally to developing countries for cost efficiency when it becomes standardized. While relevant in the mid-20th century, its validity has diminished with globalization and the rise of MNCs that launch products globally from the outset.

Other notable theories include the liquidity hypothesis, which emphasizes that multinational companies prefer to finance new investments through internally generated profits from subsidiaries, especially in developing countries with weak capital markets. Finally, Kojima's (1975) Japanese FDI theory contrasts trade-creating FDI (investing in sectors where the home country has a disadvantage, leading to imports) with trade-substituting FDI (investing in advantaged sectors, replacing trade). The gravity model (Anderson & Van Wincoop, 2003) is a modern empirical tool that models FDI flows based on the economic size of two countries and the distance between them, often augmented with other economic, cultural and institutional variables. We discuss the latter factors in the next part of the article.

2 Institutions and FDI

In the 1980s the focus on institutional factors as drivers of FDI flows has gained momentum. These factors pertain to the internal characteristics of both home and host countries, particularly their political, social, and legal environments. While most research emphasizes the institutional frameworks of host countries, some studies also explore conditions in source countries from which investments originate (Tallman, 1988). Nevertheless, institutional determinants remain especially critical for recipient nations aiming to attract foreign capital. Political stability and a favorable social or legal environment often carry more weight in investor decisions than targeted government incentives (Grančay, Dudáš, & Grešš, 2014). A stable tax system, a transparent legal framework, an open economy, and efficient administrative processes prove far more effective in encouraging investment inflows. Conversely, factors that discourage FDI include restrictions on profit repatriation, uncooperative public authorities, and rigid labour force regulations.

Applying the systematic literature review we have identified six broad categories of institutional determinants with substantial theoretical and empirical support. For example, Tocar (2018) identifies sixteen narrowly specified institutional factors and quantified determinants (indexes) influencing the allocation of FDI, to which he also adds foreign trade policy instruments such as tariffs. Our analysis encompass following determinants that evolve in the FDI litearure up to date: political stability, governance quality and corruption, tax policy, regulatory environment, property rights protection, and bilateral investment treaties.

Political stability emerges as a fundamental institutional determinant across theoretical perspectives (Le, Pham, & Pham, 2023). The theoretical mechanism linking political stability to FDI operates through uncertainty and irreversibility. FDI involves substantial sunk costs – investments in physical capital, training, and market development that cannot be recovered if conditions deteriorate. This irreversibility makes investors particularly sensitive to political risk. Empirical evidence on political stability shows mixed results. Early qualitative studies

(Basi, 1963) found strong negative effects of political risk on investment decisions. However, quantitative studies have sometimes produced statistically insignificant results. Sethi et al. (2003), examining United States FDI, found that political instability measures were not consistently significant predictors. Several factors explain these mixed findings. First, measurement difficulties plague institutional research – quantifying "political stability" requires subjective judgments. Second, time lags between political events and investment responses may obscure relationships in static models. Third, omitted variable bias may affect results, as political stability correlates with economic development. Fourth, sectoral variation in political risk sensitivity matters as resource extraction investments with long time horizons may be highly sensitive to political stability, while footloose manufacturing may respond more to labor costs.

Governance quality consistently emerges as a significant determinant of FDI across studies. The quality of public services and policy implementation, for instance, affects the cost and predictability of interacting with state authorities. Regulatory quality shapes the operational environment through the design and enforcement of business regulations. Rule of law provides the foundation for secure investment through contract enforcement and property rights protection. Recent research by Gokceli (2023) on OECD countries found that institutional quality positively affects FDI inflows to countries with lower initial institutional quality, but only in the long term. For countries with already-high institutional quality, further improvements had no statistically significant effect, suggesting diminishing returns.

The relationship between corruption and FDI is theoretically ambiguous. Some argue that corruption helps in highly regulated environments, allowing investors to circumvent inefficient regulations. Others contend that corruption complicates FDI allocation creating uncertainty and inefficiency. Empirical evidence generally supports the thesis that corruption limits FDI. Wei (2000), for example, found that corruption acts as a significant tax on FDI, with effects comparable to tax rate increases. Meta-analyses confirm that most studies find negative corruption effects, though the magnitude varies across contexts.

Tax policy affects FDI through multiple channels, but empirical evidence on its importance is mixed. Carlton (1983) found that high tax rates did not discourage new firm location. Ginevicius and Tvaronavičienė (2003), studying Baltic transition economies, found that favorable tax regimes did not attract FDI and continuity of reforms and business environment stability mattered more. However, other studies support tax sensitivity. Crivelli et al. (2016) and Murthy and Bhasin (2015) found significant tax effects on investment location. Recent research demonstrates that lower effective taxation increases sectoral FDI flows, with effects varying across sectors. Several factors explain these mixed findings. Effective versus statutory tax rates matter – investors respond to taxes they actually pay, not nominal rates.

The regulatory environment encompasses rules governing business establishment, operation, and exit. Heavy regulatory burdens may discourage FDI by increasing costs, creating uncertainty, and providing opportunities for administrative discretion and corruption. Djankov et al. (2002) demonstrated that countries with heavier entry regulation have larger informal sectors and higher corruption. Recent evidence suggests that regulatory quality matters for FDI. Well-designed regulations that are transparent, predictable, and efficiently enforced can enhance the investment climate by reducing uncertainty and protecting legitimate interests. Poorly designed regulations discourage investment regardless of their nominal stringency.

Secure property rights are fundamental to investment decisions. Protection against expropriation matters for all FDI but particularly for investments with long time horizons and location-specific assets. Intellectual property rights matter for technology-intensive FDI. Contract enforcement matters for all FDI but particularly for investments involving complex supply chains. Investor protection against self-dealing matters for FDI involving joint ventures or minority positions.

Bilateral investment treaties represent international institutional arrangements designed to protect and promote FDI. The effectiveness of BITs in attracting FDI remains debated. Some studies find positive effects (Neumayer & Spess, 2005), while others find insignificant or conditional effects (Hallward-Driemeier, 2009). Bilateral investment treaties may matter most for countries with weak domestic institutions, serving as a commitment device that substitutes for inadequate domestic protections.

3 Interaction with economics factors, development levels and types of investment

Institutional and economic determinants do not operate independently. Their interactions shape investment decisions in ways that neither category alone can capture. Institutions condition economic determinant effects. For example, market size attract FDI only when institutions are sufficiently strong to allow investors to realize returns from market access, labour costs may matter only when labor markets function reasonably well, and natural resources may attract investment only when property rights over resource extraction are secure. Economic factors influence institutional importance. In countries with very large markets or unique natural resources, investors may tolerate weak institutions that would deter investment elsewhere. The "resource curse" literature suggests that resource wealth may persist despite poor institutions (Sachs & Warner, 2001). On the contrary, institutions may substitute for or complement economic advantages. Strong institutions can compensate for modest economic advantages, attracting investment that would otherwise flow elsewhere. Conversely, weak institutions can undermine substantial economic advantages.

The relative importance of institutional determinants varies systematically with development level. In developing countries, basic institutional stability, such as political order, property security, or adequate contract enforcement, may be the most important factor (Daude & Stein, 2007). In developed countries, where basic institutional quality is universally high, further institutional differentiation may matter less. However, specific institutional features – regulatory efficiency, tax competitiveness, labor market flexibility – may affect the distribution of investment among advanced economies. Gokceli (2023), for instance, found that institutional quality affects FDI inflows to countries with lower initial institutional quality but not to countries with already-high institutional quality. This suggests a threshold effect – once institutions reach a certain quality level, further improvements yield diminishing returns.

Different types of FDI exhibit different sensitivity to institutional factors. Resource-seeking FDI is highly sensitive to property rights security and contract enforcement. Market-seeking FDI responds to market size and growth but also to institutional conditions affecting market access. Efficiency-seeking FDI is sensitive to labor market regulation, infrastructure quality, and trade logistics. Strategic asset-seeking FDI is sensitive to intellectual property protection and conditions affecting mergers and acquisitions.

4 Theoretical and policy implications

The findings of this systematic review have several implications for FDI theory development. First, institutional determinants are not merely supplementary to economic factors but fundamentally condition their effects. This suggests that theoretical frameworks treating institutions as additional variables in otherwise economic models may miss the more profound ways institutions shape investment environments. According to the results future theoretical development should explicitly model institutional-economic interactions. Second, institutional effects are context-dependent in ways that current theories insufficiently capture. The same institutional feature may affect FDI differently depending on development level, sector composition, and other country characteristics. Theories specifying the conditions under which institutional factors matter would advance understanding. Third, the finding of diminishing returns to institutional improvement challenges linear conceptions

of institutional effects. Threshold models specifying minimum institutional requirements beyond which further improvement yields limited marginal benefit would better reflect empirical patterns. Finaly, the sectoral variation in institutional sensitivity suggests that aggregate analysis may obscure important heterogeneity. Theories linking specific institutional features to specific investment types would enable more precise predictions.

In case of policymakers seeking to attract FDI, several implications emerge. The starting point here is to prioritize basic institutional stability. Political order, secure property rights, and reasonable contract enforcement are prerequisites for sustained FDI attraction. Without these basics, other policies will have limited effect. Focusing on institutional quality is the reasonable policy improvements as well. Transparent and predictably enforced institutions attract investment and contrary, poorly designed institutions discourage it regardless of their nominal characteristics. FDI allocation is sensitive to development level as institutional improvement has diminishing returns. Countries with already-strong institutions should focus on other determinants rather than pursuing marginal institutional improvements. Finaly, investment policy should be tailored to the types of investment a country seeks to attract.

Conclusion

In this paper, we conducted a thorough and systematic review of FDI theories, focusing specifically on the role of institutional factors. Our analysis was structured around three key questions. First, what institutional determinants have been identified as significant influences on FDI flows, and what is the theoretical background? Second, how do institutional determinants interact with traditional economic factors, and how do these relationships vary across development levels and sectors? Third, what implications do these theoretical insights have for policymakers seeking to attract FDI?

After synthesizing theoretical development and empirical evidence from five decades of research, our review yields several main conclusions. Institutional determinants like political stability, governance quality, tax policy, regulatory environment, property rights, and international investment agreements, significantly influence FDI flows. Their effects operate through multiple channels including reducing uncertainty, lowering transaction costs, protecting investor returns, and signaling host country commitment. Institutional and economic determinants interact in complex ways. Institutions condition the effectiveness of economic factors, economic factors influence the importance of institutions, and institutions may substitute for or complement economic advantages. Institutional effects vary systematically by development level and sector. Basic institutional stability matters most for developing countries while specific institutional features affect investment distribution among developed economies. Institutional improvement exhibits diminishing returns beyond threshold levels. Countries with very weak institutions can gain substantially from basic improvements and countries with already-strong institutions may find further improvements yield limited marginal benefit.

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INTERNATIONAL PRACTICE IN ASSESSING THE EFFECTIVENESS OF PUBLIC INVESTMENT POLICY: AN ANALYTICAL CASE STUDY

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Abstract: This study explores contemporary tools designed for projecting returns and financial outcomes from cross-border investment operations. Ensuring the sustainable socio-economic development of regions requires securing adequate financial resources and optimizing public investment policies. This study utilizes an analytical case study approach alongside economic and statistical forecasting methods and factor modeling to evaluate investment efficiency and predict associated risks. The article examines leading international practices in investment regulation and promotion, focusing on the institutional frameworks of Poland, the Czech Republic, and Canada. It systematizes the core indicators required to establish the predictive validity of investment processes and introduces three types of factor models to evaluate the variability and optimality of regional strategies. The findings indicate that aligning national policies with global institutional benchmarks and advanced statistical tools provides a resilient foundation for minimizing risks and maximizing the efficiency of state-led investment programs at the territorial level.
Keywords: public investment policy, regional development, international practice, factor models, risk assessment, economic forecasting.
JEL Classification: M21, M29, O16

1 Problem setting

Global investment plays a crucial role in the structure of contemporary international business. Attaining advanced socio-economic growth, both nationally and globally, requires an efficient structural and investment policy that fosters international economic ties and creates a positive investment environment. Furthermore, cross-border investment operations are inherently tied to evaluating current market conditions and predicting future trends. In this context, allocating capital advantageously and accurately evaluating the appeal of potential investment targets is essential. Ultimately, the true measure of an efficient economy is not the sheer amount of capital raised, but how rationally those resources are utilized.

Regional investment policy is a key tool for ensuring sustainable socio-economic development of territories, increasing their competitiveness and creating a favourable environment for attracting domestic and foreign investments. In the context of modern challenges caused by military actions, destabilization of the economy, destruction of infrastructure and a decrease in investment activity, the issue of the effectiveness for regional investment policy is gaining particular importance.

Ukraine is in the process of restoring and structural modernization of the economy, which necessitates the formation of qualitatively new approaches to managing investment processes at the regional level. It is the regions that are becoming the main growth points, where reconstruction programs are implemented, development clusters are created, innovative projects are implemented and a local investment ecosystem is formed.

Odesa region occupies a strategic place in the economic structure of Ukraine due to its powerful transport and logistics potential, port infrastructure, significant resource capabilities and active participation in international trade. At the same time, the region faces a number of risks and barriers that negatively affect investment attractiveness: military threats, logistical constraints, infrastructure losses, low diversification of the economy, and imperfect institutional environment.

In this regard, there is an objective need for a comprehensive assessment of the current regional investment policy, identifying its strengths and weaknesses, identifying systemic problems, and developing practical directions for its improvement in accordance with the conditions of post-war recovery, the principles of EU regional development, and OECD recommendations.

Thus, the relevance of the study is due to the need to increase the investment attractiveness of regions during the post-war recovery period, which requires modernization of approaches to managing investment processes and creating favourable conditions for the implementation of strategic development projects. It is important to form effective management decisions aimed at supporting and stimulating investment activity, as well as attracting private capital and international resources to build regional infrastructure.

No less important is the adaptation of regional investment policy to modern risks, global trends and structural changes in the economy, which involves updating institutional mechanisms and increasing their flexibility and effectiveness. In this context, ensuring the economic stability and competitiveness of the Odesa region, which is of strategic importance for the national development and integration of Ukraine into world economic processes, is of particular importance. The implementation of modern approaches to managing investment processes, which include the use of innovative technologies, the formation of a favourable investment environment and ensuring a high level of openness and transparency of management decisions, is of particular importance. The study about the best practices of the European Union countries and their adaptation to the socio-economic realities of the Odesa region is a necessary prerequisite for increasing the effectiveness of regional investment policy. Therefore, the chosen topic not only meets the urgent needs of the time, but also has important strategic importance for the sustainable development of the region and the state as a whole (Elton & Gruber, 2014).

2 Recent publications analysis

Securing adequate financial resources from both domestic and international channels is essential for the steady socio-economic advancement of Ukraine's regions. Fundamental studies conducted by local and global researchers demonstrate that economic revitalization and growth are strictly dependent on the volume, allocation, and execution efficiency of these investments. Consequently, a broad range of scholarly works by domestic and foreign economists focuses on evaluating investment practices and optimizing the regional investment climate to attract capital. (Drobyazko, 2020).

Achieving sustainable socio-economic growth across Ukrainian regions requires securing adequate funding from domestic and international investors. Fundamental research by local and global experts underscores that economic recovery and progress heavily depend on the volume, structure, and execution efficiency of these investments. Consequently, numerous academics have focused on modern pathways for shaping national investment policies. A broad spectrum of studies by domestic and foreign economists addresses investment activities and foreign capital attraction aimed at enhancing the investment climate. For instance, Drobyazko (2020) introduces innovative techniques for boosting business economic security at both micro and macro levels. Mayorova (2013) examines the investment process alongside its financial and credit significance for revitalizing Ukraine's economy. Pierce (2013) explores aspects of

strategic management, including formulation, execution, and control. Furthermore, Karpenko (2019) investigates analytical tools of integrated managerial analysis to stimulate corporate innovative investment strategies, while Lipkova and Bohac (2016) analyze the formation of international investment strategies. Therefore, this research area remains highly relevant, necessitating continuous refinement and the development of optimal approaches to investment management.

Consequently, the selected research topic remains highly significant, demanding ongoing refinement and the development of effective strategies to maximize investment efficiency.

3 Research goal

The aim of the article is to analyze international practices in assessing the effectiveness of public investment policy and, based on an analytical case study, to identify key approaches for its optimization.

The study systematizes the methodological toolkit required for extrapolating and establishing the predictive validity of international investment activities at the regional level. The practical value of the research is demonstrated through economic and statistical analyses of foreign direct investment in Ukraine. Furthermore, this paper categorizes the primary indicators embedded in economic-statistical models to forecast risk levels when evaluating investment project efficiency. Additionally, three types of factor models are proposed, outlining their specific applications for assessing investment processes, verifying their adaptability and optimality, and substantiating the formulation of international strategies.

4 Data and methodology

To achieve the objective of this study and evaluate the effectiveness of public investment policy, a comprehensive methodological framework combining qualitative and quantitative approaches was deployed. The empirical baseline of this research relies on official statistical indicators, national economic accounts, and international financial reports spanning a specific multi-year period. By gathering data from both domestic and international institutional repositories, the study ensures a high level of analytical validity, allowing for a deep investigation into how capital allocation influences socio-economic development at the territorial and regional levels (Rachynskyi, 2020).

The quantitative phase of the methodology involves economic and statistical forecasting techniques, alongside the construction of multi-factor regression models. These models are designed to isolate and analyze specific parameters that determine the pace of economic recovery, the scale of internal and foreign direct investment, and the overall quality of project execution. Furthermore, risk assessment indicators are systematized within the framework to evaluate the vulnerability and prognostic validity of state-funded investment programs under fluctuating macroeconomic conditions.

Complementing the statistical analysis, an analytical case study approach is utilized to evaluate international best practices in public investment management. This comparative qualitative method allows for the identification of successful international structural patterns and regulatory tools. By assessing these global frameworks, the study develops a systematic approach to benchmarking, which serves as the foundation for optimizing domestic investment mechanisms.

To secure a high degree of academic validity and practical relevance, the empirical architecture of this study relies on a dual methodological approach, combining robust econometric modeling with comparative qualitative analytics. The data baseline is constructed from multi-year macro-level datasets gathered from verified national statistical repositories, international financial reporting databases, and investment monitoring agencies. This multi-layered dataset tracks key parameters including foreign direct investment inflows, regional

public fund allocations, territorial socio-economic indicators, and the recorded financial yields generated by international investment projects. By cross-referencing these diverse institutional repositories, the analytical framework effectively eliminates localized data bias and establishes a resilient foundation for long-term forecasting.

The core mathematical focus of this section shifts toward evaluating and deploying modern instruments designed for forecasting the financial returns and income streams of cross-border investment activities. Traditional extrapolations often fall short when subjected to shifting macroeconomic volatility; thus, this paper systemizes an advanced instrumental framework rooted in economic and statistical forecasting. By establishing specific indicators that measure the predictive validity of investment processes, the methodology allows for the quantification of project efficiency thresholds. This instrumental setup transitions the core managerial strategy from static retrospective observation to active, predictive modeling of potential capital performance.

To capture the complex variables influencing investment dynamics at the territorial level, the quantitative phase of the research introduces three distinct types of factor models. These econometric models are explicitly calibrated to evaluate the variability, dynamics, and operational optimality of international strategies under fluctuating market conditions. The mathematical integration of risk assessment parameters into these factor models makes it possible to isolate specific exogenous and endogenous risk factors that affect the speed and quality of project execution. Consequently, this allows the study to accurately simulate how variations in regional infrastructure, institutional support, and public policy interventions impact the overall revenue generation of attracted investments.

Complementing the econometric tools, the methodology incorporates a qualitative analytical case study framework to scrutinize international best practices in investment regulation and institutional support, referencing the structured experiences of economies like Poland, the Czech Republic, and Canada. This comparative mechanism benchmarks domestic public management structures against successful global cluster-based initiatives and specialized investment promotion networks. By blending multi-factor quantitative modeling with international benchmarking, the methodology provides a comprehensive diagnostic toolkit capable of justifying optimal pathways for enhancing the regional investment climate and maximizing the socio-economic returns of state-led investment policies.

5 Key research findings

The modern landscape of regional economic development underscores that the execution of an effective public investment policy is a cornerstone for achieving long-term sustainability. International practice demonstrates that leading economies do not merely allocate state funds; instead, they implement rigorous, multi-layered evaluation frameworks to monitor the socio-economic returns of every invested unit. Synthesizing global experience reveals that successful public investment management is built upon clear institutional benchmarks, transparent auditing, and the integration of advanced digital tools. These international frameworks prioritize not only the initial volume of capital but also the structural harmony between public allocations and private or foreign direct investment inflows.

An analytical case study of international practices reveals distinct variations in how countries mitigate risk and optimize investment efficiency. Developed economies frequently utilize sophisticated benchmarking systems that categorize projects based on their strategic regional impact. By examining these case studies, it becomes evident that the synchronization of national goals with territorial needs significantly accelerates economic renewal. Countries that employ decentralized monitoring mechanisms show greater agility in adapting their public investment portfolios to macroeconomic shifts, thereby maintaining a favorable investment climate even during periods of fiscal volatility (Fabozzi, 2008).

To bridge the gap between international benchmarks and domestic application, this study introduces a systematized instrumental base designed to build the predictive validity of investment processes. The practical core of this analysis relies on economic and statistical investigations of investment performance data. By structuring the primary indicators used in statistical forecasting, we can effectively determine potential risk thresholds during both the formulation and execution stages of public programs. This methodical systematization ensures that decision-makers can transition from reactive adjustments to proactive, data-driven strategic planning (Karpenko, 2019).

Furthermore, the application of the proposed three types of factor models allows for a granular evaluation of investment dynamics. These factor models assess the variability and optimality of cross-border and state-funded investment strategies under different economic scenarios. The empirical findings indicate that the speed and quality of project implementation are heavily influenced by the precision of the initial analytical managerial tools. Ultimately, aligning domestic public investment policy with verified international frameworks - supported by robust factor modeling - creates a resilient foundation for maximizing the efficiency of regional development and fostering sustainable socio-economic growth.

Investment policy in the post-war period is of key importance for the formation of a new model of economic development of Ukraine, focused on sustainability, innovation and regional balance. Given the scale of destruction, loss of production capacity, degradation of infrastructure and transformation of socio-economic processes, it is investments that become the basis for modernization of the economy, restoration of industry, reconstruction of territorial communities and formation of new sources of economic growth (Fabozzi, 2008).

In the post-war period, investment policy is designed to full fill not only the traditional role of a stimulator of economic activity, but also to ensure the strategic transformation of regions in accordance with the needs of national security, European integration, green transition and digital modernization. Investments can become a tool for structural renewal of the economy, promote the development of innovation clusters, modernization of transport, energy and social infrastructure, as well as expand opportunities for entrepreneurship and job creation.

The regional dimension of investment policy is of particular importance. It is the regions that have experienced varying levels of destruction and development disparities that require targeted funding, institutional support, and strategic planning. The unevenness of destruction, the varying capacities of territorial communities, population outflows, and shifts in the economic structure require the development of differentiated approaches to stimulating investment activity. In this context, investment policy should ensure a balance between national reconstruction priorities and the unique opportunities and challenges of each region.

Post-war economic recovery is impossible without the active involvement of external and internal investments, the use of modern financial instruments, the expansion of public-private partnerships, the development of industrial and technological parks, the modernization of local economic development mechanisms, and the introduction of transparent investment management institutions. An important task is to create conditions for the effective participation of international partners, private investors, banking structures, and donor organizations in the reconstruction of the country.

Since 2022, Ukraine’s economic space has undergone a profound transformation caused by a full-scale Russian invasion. The scale of the destruction and economic losses is unprecedented in the country’s recent history. According to the RDNA4 report, prepared by the Government of Ukraine in collaboration with the World Bank, the European Commission and the United Nations, the total reconstruction financing needs will amount to around US$524 billion over the next decade. This volume requires a long-term, targeted and coordinated investment policy, which should be implemented at the state, regional and local levels of government (Casidy, 2014).

Accordingly, Figure 1 illustrates the strategic pathways for enhancing the state investment strategy. This section examines the primary mechanisms and instruments of investment policy that have demonstrated empirical effectiveness internationally and can be adapted to the specific economic conditions of Ukraine (Karpenko et al., 2020).

Consequently, the regulation of the investment business environment in Poland operates through a dual system, combining domestic policy instruments with regulatory frameworks common to the entire European Union. While EU-level regulations establish the overarching principles, foundational legal standards, and unified market guidelines for conducting business, national policies are designed to be more targeted, practical, and specific to the country`s economic realities. This intersection creates a structured approach where macro-level European directives are effectively operationalized through tailored domestic legislation (Karpenko & Pashko, 2019).

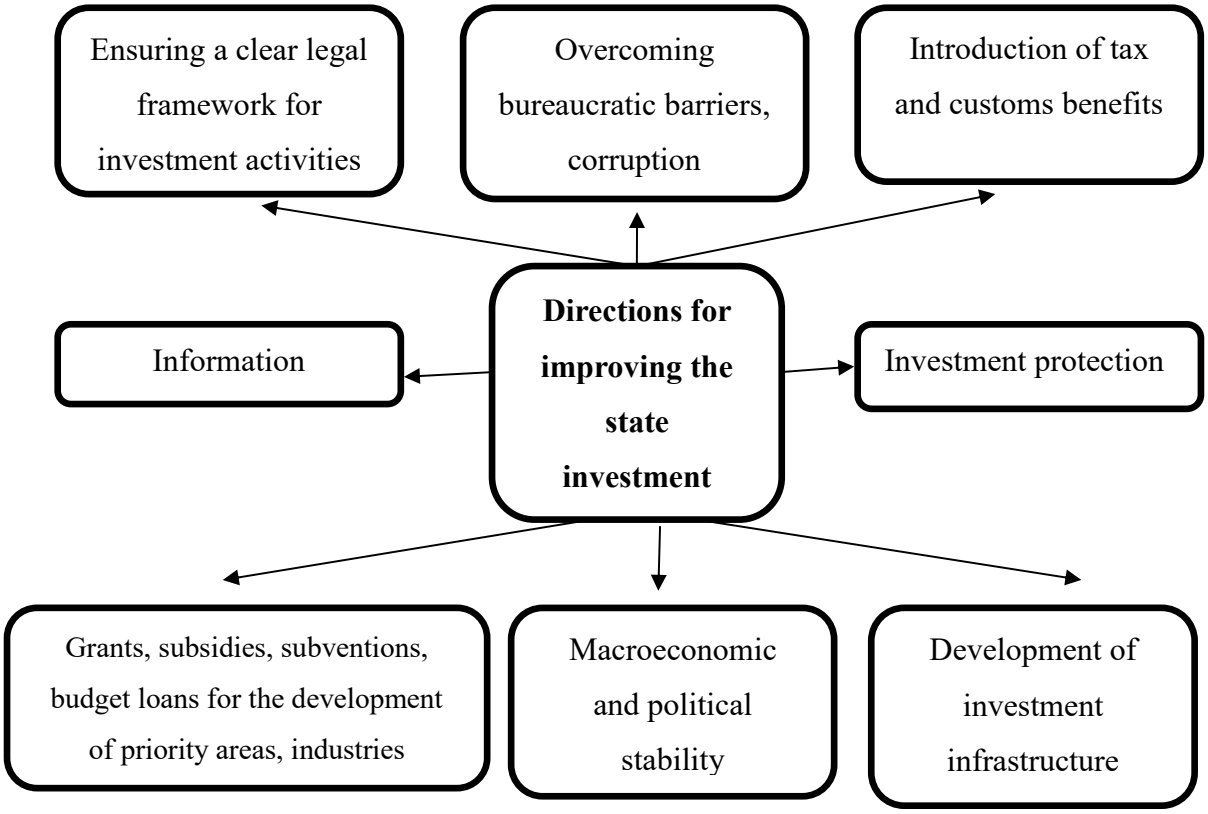

Figure 1: Strategic pathways for enhancing the state investment strategy

In addition to shaping the conceptual framework for improving the investment climate, the European Union plays a critical role in mobilizing financial resources to support high-priority investment initiatives. In Poland, the partial co-financing of regional and national investment projects is executed through approximately ten distinct EU structural and investment funds. Beyond direct capital injections, state aid is systematically delivered via a well-developed institutional network. The primary objective of these institutional bodies is to guarantee sustainable, long-term investment growth, particularly at the regional level, thereby reducing economic disparities between different territories (Kunychka, 2018).

To ensure the practical efficiency of these initiatives, the institutions involved in fostering the investment environment are deeply integrated into the business lifecycle. Equipped with robust logistics, specialized infrastructure, and highly qualified personnel, these

agencies provide comprehensive support to enterprises. Their assistance spans from the critical initial phases of launching manufacturing and production activities to the ongoing accompaniment and operational monitoring of these business processes. This multi-layered institutional support serves as a vital model for transitional economies seeking to optimize their public investment policies and regional governance structures (Lipkova, 2012).

Consequently, several valuable components can be adapted from Poland`s economic experience to enhance regional frameworks:

- a holistic approach toward optimizing the regional investment climate;
- proactive engagement in international economic cooperation;
- strategic mobilization of global funding and structural channels;
- a highly integrated institutional network tailored for capital attraction;
- the deployment of a versatile toolkit, including robust investment promotion strategies.

In the Czech Republic, the core institutional body responsible for driving capital inflows is the national agency "CzechInvest". The primary operational mandates of this organization revolve around providing comprehensive support to active and prospective local enterprises, as well as foreign direct investors. A key element within the Czech strategy to stimulate the economic environment is the active development of industrial and regional clusters. For transitional economies such as Ukraine, the Czech model offers valuable benchmarks in the following areas:

- the operational efficiency of specialized state investment promotion agencies;
- the practical implementation of the cluster-based economic approach;
- fostering structured collaboration between commercial businesses and scientific research institutions;
- the utilization of a differentiated, asymmetric strategy for territorial development;
- a dedicated policy focus on innovative, knowledge-driven growth (Stanickova, 2012).

Concurrently, Canada’s investment framework is governed by a combination of national legislation and regulatory instruments aligned with international organizations and trade agreements of which the country is a member (such as the WTO and USMCA). At the global level, the leading agency tasked with positioning the country as a premier investment destination is "Invest in Canada". Canadian investment development initiatives are designed and executed through a multi-tiered system at both federal and provincial (regional) levels. The federal tier is characterized by robust financial backing from public authorities, where specialized state agencies deliver grants, targeted subsidies, and credit guarantees to minimize risk and secure long-term capital commitments.

An important condition for harmonizing regional investment priorities with the national strategy is the creation of a comprehensive system for monitoring and evaluating the effectiveness of projects. Such a system should be based on a single set of key indicators (KPIs) that will allow tracking financial, social and economic results, ensure transparency of decision-making processes and strengthen the trust of investors and communities in state institutions.

No less important are the aspects of human capital development. Post-war investment policy should include investments in education, professional retraining, the development of entrepreneurial competencies, support for scientific and technological activities and strengthening social infrastructure. The model of partnerships between universities, business and communities, which ensures the formation of modern skills, training of specialists for new sectors of the economy and the integration of knowledge into practical innovative projects, demonstrates high efficiency.

The post-war investment environment of Ukraine is formed as a multi-component system, which combines various financial instruments - grant aid, preferential lending, commercial investments, accompanied by state guarantees and international risk insurance

mechanisms. Such a model allows to ensure diversification of financing sources and reduce the burden on the state budget during the period of large-scale reconstruction (Lipková & Hovorková, 2018).

One of the promising areas of financing development is project finance platforms (Project Finance Platforms), which accumulate various types of resources - state, donor, private - and ensure collective risk management. The use of such an approach makes it possible to implement a large number of local reconstruction projects without additional increase in public debt and in compliance with international financial control standards.

The second key mechanism is fund internationalization, which involves raising funds through special bond programs, such as Ukraine Recovery Bonds, as well as municipal bonds such as Municipal Recovery Bonds, which can be used by communities to finance infrastructure and socially significant projects.

EBRD research (2024) shows that in Central and Eastern European countries (Poland, Lithuania, Croatia) municipal bonds have become a key source of regional financing after the end of military conflicts, providing 25–30% of the total volume of investment in reconstruction. This indicates the high efficiency of this instrument for financing territorial development.

The third direction involves the use of development institutions, in particular the State Innovation Finance and Credit Institution (SIFCU), the Export Credit Agency (ECA), the Energy Efficiency Fund and the future Recovery Fund. These structures provide preferential lending, investment insurance, interest rate compensation, and other incentives for the implementation of socially important and economically significant projects in the regions (Lipková & Bohac, 2016).

At the same time, investment activity in post-war regions is accompanied by high risks - military, political, currency, and logistical. In order to minimize them, a multi-level system of guarantee and insurance instruments is formed, which includes:

- military-political guarantees provided by international financial institutions, such as IFC and MIGA;
- tate guarantees of Ukraine for investments in priority industries and territories;
- nvestment insurance with the support of USAID, DFC, OPIC, EFSD and other international partners.

An extremely important step will be the launch of the National War Risk Insurance Agency in 2025, which should provide comprehensive protection for private investors, especially in the most vulnerable regions. The activities of this agency will be critical for the return of private capital to the Ukrainian economy and the restoration of investment activity after the war.

The most effective in the conditions of post-war recovery is the multi-instrumental investment model, within which various financial instruments perform complementary functions. Grant funds are used to prepare project documentation, conduct technical and economic justifications, international expertise and provide technical assistance. Instead, loans, municipal and state bonds serve as the basis for scaling projects and ensuring their financial sustainability.

In such a mod (Pearce, 2013)el, the private sector acts as a full-fledged partner of the state in the spheres of production, energy, agro-processing and logistics, while the state assumes the functions of guarantor, coordinator and moderator of investment processes. This contributes not only to the restoration of destroyed assets, but also to the formation of a long-term culture of transparency, responsibility and partnership in the implementation of regional projects.

International financial institutions, such as the EBRD, the World Bank, the IMF are gradually expanding the toolkit of support for Ukraine through the creation of special "Recovery Windows", that is, separate financial windows for regions aimed at combining investments with management reforms, improving reporting procedures, auditing, and

strengthening the institutional capacity of local authorities. This makes it possible to provide financing not only for specific projects, but also to create stable institutional foundations for high-quality regional management.

Thus, modern financial models of investment recovery should be based on three key principles. The first, diversification of funding sources, which involves the simultaneous use of grants, preferential and commercial loans, private investments and local resources, which ensures financial flexibility and reduces the debt burden.

The second is transparency and audit, which should guarantee openness of financial flows, use of unified electronic platforms for investment monitoring, automation of procedures and prevention of corruption risks.

The third direction involves the use of development institutions, in particular the State Innovation Finance and Credit Institution (SIFCU), the Export Credit Agency (ECA), the Energy Efficiency Fund and the future Recovery Fund. These structures provide preferential lending, investment insurance, interest rate compensation and other incentives for the implementation of socially important and economically significant projects in the regions (Ukrstat, 2026).

Conclusion

The research synthesizes international practices and methodological approaches to assessing the effectiveness of public investment policies, underscoring their decisive role in ensuring the sustainable socio-economic development of regions. The comparative analysis of global experiences, particularly the structural models of Poland, the Czech Republic, and Canada, demonstrates that successful capital mobilization requires a balanced, dual-tier regulatory framework. Transitional economies can significantly optimize their investment climate by adapting verified international benchmarks, such as specialized state promotion agencies, cluster-based development strategies, and structured institutional accompaniment for emerging business initiatives.

The empirical core of this study proves that modern public investment management must transition from reactive operational adjustments to proactive, data-driven forecasting. To bridge this gap, the paper has successfully systematized a comprehensive instrumental base that enhances the predictive validity of investment processes at the territorial level. By organizing and structuring the primary economic and statistical indicators utilized in risk assessment, a reliable framework has been established to identify potential vulnerabilities and calculate efficiency thresholds during both the formulation and execution phases of state-funded projects.

Furthermore, the practical utility of the research is realized through the introduction of three distinct types of factor models. These models allow public authorities and economists to evaluate the variability, dynamics, and optimality of international and domestic investment strategies under shifting macroeconomic conditions. The scientific results indicate that the quality and speed of regional economic renewal are directly driven by the precision of integrated managerial analysis tools. Ultimately, aligning national investment strategies with robust statistical modeling and international institutional standards creates a resilient foundation for maximizing the efficiency of regional development.

Investment policy in the post-war period is not only a financial instrument, but also one of the key mechanisms for the reconstruction and modernization of regional economic systems of Ukraine. It is through investment mechanisms that the mobilization of resources, the activation of entrepreneurial activity, the formation of new economic clusters, the creation of jobs and the restoration of critical infrastructure are ensured. The success of the restoration and transformation processes largely depends on the ability of the state and regions to form the expected investment environment, integrate international experience, improve the regulatory framework, increase institutional capacity and implement innovative management models. The

Odesa region has significant economic, logistical, transport, agricultural and recreational potential, however, its implementation requires the modernization of management, organizational and financial mechanisms. The proposed areas of improvement – from strengthening the regulatory environment, developing investment infrastructure and stimulating innovation to supporting small and medium-sized businesses, improving communications with investors and developing public-private partnerships – create the basis for the formation of a modern model of investment development in the Odesa region. The effectiveness of the investment policy of the Odesa region depends on the ability of regional authorities to ensure transparency of management, increase the institutional capacity of communities, form competitive investment proposals and integrate the region into national and international economic chains. The implementation of the identified areas will contribute to increasing the investment attractiveness of the region, activating the inflow of domestic and foreign investments, modernizing the economic structure and ensuring sustainable socio-economic development of the Odesa region in the post-war period.

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INTERPRETATIVE RISKS AND MEDIA DISCOURSE OF CYBER THREATS IN THE POST-SOVIET SPACE: RUSSIA, UKRAINE AND KAZAKHSTAN[1]

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Abstract: The article examines interpretative risks in the media discourse of cyber threats in the post-Soviet space. The aim of the study is to analyze mechanisms of fear-based manipulation in media narratives related to cyber incidents in Russia, Ukraine, and Kazakhstan. The research is based on a comparative analysis of academic publications, analytical reports, and media materials. The theoretical framework draws on Edward Bernays' propaganda theory and concepts of digital inequality. The findings demonstrate that interpretations of cyber threats are shaped by geopolitical context, political communication, and the media representation of security risks.
Keywords: cyber threats, media discourse, interpretative risks, hybrid conflicts, digital inequality
JEL: F52, D83, O33

Introduction

Digitalization and the development of global information networks are significantly transforming the nature of contemporary world politics. Cyberspace has become an integral part of global power relations, where technological, security, economic, and political dimensions intersect. Alongside new opportunities for communication and technological advancement, new forms of vulnerability have emerged, associated with information influence, media manipulation, and the unequal position of states within the global technological system. Cyberattacks targeting state institutions, critical infrastructure, and the financial sector are increasingly becoming elements of hybrid conflicts and geopolitical rivalry. Their significance lies not only in their technical consequences, but also in the ways they are interpreted by the media and utilized for political purposes. Information about cyber incidents is often used to mobilize society and legitimize security measures. Consequently, cyberspace is evolving into a sphere of political influence, symbolic confrontation, and the construction of international narratives.

Major cyber incidents in recent years, such as the 2017 NotPetya attack, the DDoS attacks against Ukrainian state institutions in 2022, and the growing number of cyber threats in the post-Soviet region during 2025 – 2026, demonstrate that such threats cannot be analyzed separately from broader processes of world politics. Events of this kind become part of media discourse through which perceptions of security, state stability, and the legitimacy of political decisions are shaped. The relevance of this issue is also connected to the growing global digital divide. Not all states possess the same technological capacities, level of infrastructure, or ability to control the information space and influence global media narratives. As a result, weaker technological resilience becomes not only a security issue, but also a manifestation of broader geopolitical and economic asymmetries.

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The post-Soviet region represents a specific geopolitical space where the consequences of historical transformation, geopolitical instability, and asymmetric integration into the global system intersect. Although Russia, Ukraine, and Kazakhstan share a similar historical and technological background, they occupy different positions within international political and security structures. These differences make it possible to examine how the interpretation of cyber threats changes depending on geopolitical context and the nature of media discourse. Media and political communication play a significant role in shaping public opinion, trust in state institutions, and the international image of individual countries. In the digital era, fear has become an important instrument of political influence that enables the mobilization of society and the reinforcement of specific political narratives

The aim of this article is to analyze the mechanisms of manipulation through fear in the media discourse on cyber threats in the post-Soviet region, focusing on Russia, Ukraine, and Kazakhstan, with particular attention to the relationship between technological vulnerability, political communication, and global digital inequality.

To achieve this aim, the following research objectives were formulated:

1) to define the concept of interpretative risks and their role in contemporary political communication;
2) to analyze the theoretical foundations of manipulative influence with an emphasis on Edward Bernays' theory of propaganda;
3) to conduct a comparative analysis of media discourse on cyber threats in Russia, Ukraine, and Kazakhstan;
4) to identify the relationship between technological vulnerability and global digital inequality;
5) to evaluate the impact of media discourse on the formation of public perceptions of security threats and geopolitical narratives.

The methodological framework of the study is based on a comparative analysis of academic publications, analytical reports, and media materials, supplemented by elements of critical discourse analysis. The research relies on secondary sources and focuses on the interpretation of existing studies and media narratives concerning cyber threats in the post-Soviet region. The theoretical foundation draws on Edward Bernays' works on propaganda, Manuel Castells' concepts of the information society and communication power, as well as theories of digital inequality and data colonialism developed by Nick Couldry and Ulises Mejias. The study also incorporates scholarly literature on media manipulation and the psychology of fear (Kara-Murza, 2000; Dotsenko, 1997). The empirical basis consists of international media publications, analytical reports, official statements of state institutions, and cybersecurity studies covering the period from 2017 to 2026.

1 Theoretical Foundations of the Media Discourse on Cyber Threats

The theoretical framework of this study is based on the intersection of media studies, propaganda theory, political communication, and concepts of global digital inequality. The research focuses on the ways in which cyber threats become embedded in geopolitical conflicts and how their media interpretation influences perceptions of security, trust in state institutions, and the international image of individual states. Today, cyber threats are increasingly intertwined with geopolitical rivalry, hybrid conflicts, and the media construction of social reality. Consequently, the communication of cyber incidents significantly shapes their public interpretation. Media no longer perform solely an informational function; they also contribute to the formation of political narratives, security perceptions, and societal responses to crisis situations (Wilkinson, 1999; Castells, 2009). In this context, it is possible to speak of interpretative risks, understood as situations in which factual information is transformed into emotionally or ideologically conditioned interpretations. Thus, the risk lies not only

in the existence of a cyber threat itself, but also in the manner in which it is presented by the media and perceived by society. Cyber incidents may be framed as technical problems, manifestations of systemic instability, or evidence of geopolitical aggression. The significance of such events is therefore constructed through media interpretation, political context, and the characteristics of the target audience (Wilkinson, 1999; Solovyov, 2019). An important role is played by media language, dramatizing formulations, military metaphors, and emotionally charged narratives. Expressions such as "cyber warfare," "digital attack," or "hybrid aggression" create an atmosphere of uncertainty and reinforce a sense of societal threat. At the same time, such strategies contribute to the legitimization of security measures and the strengthening of control mechanisms within the online environment (Hoskins & O'Loughlin, 2010).

An important theoretical foundation of this study is Edward Bernays' theory of propaganda, according to which fear represents one of the most effective instruments for influencing public opinion. Bernays argued that emotional stimuli often have a greater impact than rational argumentation because they activate fundamental defensive mechanisms within individuals and society (Bernays, 1928). In conditions of geopolitical uncertainty and hybrid conflict, fear therefore becomes a tool of political mobilization, the legitimization of security measures, and the construction of an external enemy image. Contemporary research on media manipulation and information influence further develops Bernays' ideas by emphasizing the ability of repeatedly communicated threats to create stable social perceptions regardless of the actual intensity of the risk (Kara-Murza, 2000; Dotsenko, 1997; Pocheptsov, 2015). The long-term emphasis on security threats may contribute to growing social anxiety, polarization, and support for restrictive security policies (Sharkov, 2018). Another important aspect of the issue is global digital inequality. The contemporary information environment is characterized by an asymmetrical distribution of technological capacities and the ability to influence international information narratives. Not all states possess the same level of technological preparedness or the same capacity to control the information space. As a result, the vulnerability of technological infrastructure becomes not only a security issue but also a manifestation of broader geopolitical and economic inequalities (Couldry & Mejias, 2019; Zuboff, 2019). Nick Couldry and Ulises Mejias argue that control over data and information platforms constitutes a new form of global power (Couldry & Mejias, 2019). The ability to shape information flows and media interpretations therefore significantly affects the position of states within the global system.

The post-Soviet region represents a specific geopolitical space where the consequences of historical transformation, geopolitical instability, and asymmetric integration into the global technological system intersect. Russia, Ukraine, and Kazakhstan share a similar historical and technological background, yet occupy different positions within international political and security structures. These differences make it possible to examine how the interpretation of cyber threats changes depending on geopolitical context and media framing. One example is the 2017 NotPetya attack, which initially spread through the Ukrainian software M.E.Doc and subsequently affected international corporations and logistics networks. Within Ukrainian discourse, the attack was primarily interpreted as part of Russian hybrid aggression, whereas Russian media narratives emphasized technological vulnerability and the need for digital sovereignty. Western media and analytical centers focused mainly on the geopolitical dimension of the incident and the growing risks of global cyber instability (Council on Foreign Relations, n.d.; Wolff, 2021).

Similar differences can also be observed in relation to the DDoS attacks on Ukrainian state institutions in 2022. While domestic discourse emphasized the need for social mobilization and state resilience, foreign media interpreted the situation as evidence of regional instability and the technological vulnerability of the post-Soviet region (Hopkins, 2022; NPR Staff, 2022).

In Russia, cyber threats were mainly presented through narratives of stability and the protection of technological infrastructure (The Central Bank of the Russian Federation, 2025), whereas in Kazakhstan dominant themes included digital fraud, social engineering, and the protection of citizens against the loss of personal data and financial resources. Information directed at domestic audiences often serves mobilizing and legitimizing functions, while foreign media may interpret the same events as manifestations of regional instability or geopolitical threat. Media discourse thus becomes an instrument of symbolic power and an integral component of contemporary hybrid conflicts. Manuel Castells emphasizes that power in the information society is closely connected with the ability to control information networks and dominant social narratives (Castells, 2009).

The theoretical analysis demonstrates that interpretative risks cannot be understood merely as the result of media distortion of individual events. Rather, they represent a broader phenomenon connected to the functioning of the global information space, geopolitical polarization, hybrid conflicts, and the unequal position of states within the technological system. The study of media discourse on cyber threats therefore constitutes an important tool for analyzing contemporary world politics, global inequality, and power relations in the information age.

2 Media Discourse on Cyber Threats in the Post-Soviet Region

The empirical part of this study focuses on the analysis of selected cyber incidents in Russia, Ukraine, and Kazakhstan during the period 2017–2026. The selection of these countries is not accidental. They are states of the post-Soviet region that share a similar historical background, interconnected information space, and ongoing process of digital transformation, while differing in their geopolitical positions, level of technological infrastructure, and degree of integration into the global system (Castells, 2009). The post-Soviet region represents an area where the consequences of global inequality in digital technologies, security infrastructure, and media influence are particularly evident. Countries of the region remain highly dependent on global technological platforms, foreign software solutions, and international information flows. This asymmetric position increases their vulnerability to cyberattacks, information operations, and external media influence (Couldry & Mejias, 2019; Zuboff, 2019). Consequently, digital security has become not only a technical issue but also an integral component of geopolitical and power relations (Hoskins & O'Loughlin, 2010).

2.1 NotPetya (2017) as an Example of Global Digital Vulnerability

One of the most significant cyber incidents of recent years was the NotPetya attack in June 2017. The malware spread through a compromised update of the Ukrainian accounting software M.E.Doc, which was widely used by Ukrainian enterprises. However, the consequences of the attack extended far beyond Ukraine. Major international corporations, including Maersk, Merck, FedEx, and Saint-Gobain, also suffered substantial damage (Council on Foreign Relations, n.d.; Wolff, 2021). The incident demonstrated the high level of interconnectedness within the global digital space and the uneven preparedness of states and corporations to confront cyber threats. It revealed that technological vulnerability is not merely a technical issue, but also a matter of economic and geopolitical inequality (Couldry & Mejias, 2019). States with limited technological capacities or a greater dependence on external digital systems face significantly higher risks of destabilization. The incident also confirmed that cyberspace constitutes a new dimension of hybrid conflict in which technology, geopolitics, economics, and media influence intersect (Hoskins & O'Loughlin, 2010). Digital attacks are now capable of disrupting the functioning of the state, undermining public trust in institutions, and affecting the international image of a country.

In Ukraine, the attack was primarily interpreted as part of Russian hybrid warfare. Media discourse emphasized the need for societal resilience, strengthened cybersecurity, and cooperation with Western partners. Fear of further attacks contributed to public mobilization and support for security measures (Brodetskij, 2020). In the Russian media space, the focus shifted toward the general vulnerability of digital systems and the need for technological independence. The geopolitical dimension of the incident was often downplayed or relativized. Narratives stressing the importance of "digital sovereignty" and reducing dependence on Western technological solutions also emerged (Castells, 2009). Western media, by contrast, interpreted the attack mainly within the context of growing geopolitical tensions and cyber threats associated with Russia. NotPetya became a symbol of a new form of hybrid conflict in which the boundary between cyberattacks and geopolitical confrontation is gradually disappearing (Wolff, 2021). The incident intensified discussions regarding the need for international cyber regulation and collective digital security.

The significance of the NotPetya attack also lies in the fact that it exposed the high degree of global technological dependence. Even a localized incident was capable of disrupting the global economy through interconnected digital systems. This confirms the arguments of authors such as Nick Couldry and Ulises Mejias, who emphasize the emergence of new forms of digital inequality and technological dependence within the global system (Couldry & Mejias, 2019).

2.2 Contemporary Cyber Threats in the Post-Soviet Region (2022–2026)

During the period 2022–2026, cyber threats in the post-Soviet region increasingly affected state institutions, the financial sector, and digital infrastructure, becoming not only a security issue but also a political and media phenomenon. Although Russia, Ukraine, and Kazakhstan faced different forms of cyber incidents, media interpretations in all three countries demonstrated how cyber threats are closely connected to questions of sovereignty, political stability, technological dependence, and public mobilization.

In Ukraine, cyberattacks were predominantly framed within the context of hybrid warfare and geopolitical confrontation. Following the large-scale DDoS attacks against Ukrainian state institutions and banks in February 2022, domestic media emphasized the need for national unity, societal resilience, and international support. Cyber incidents were interpreted not merely as technical disruptions, but as attacks on state sovereignty and national security (Hopkins, 2022; NPR Staff, 2022). Ukrainian discourse also frequently highlighted technological inequality and dependence on Western technological and security assistance. Foreign media coverage often focused on the vulnerability of Ukrainian digital infrastructure and broader regional instability, reinforcing the image of the post-Soviet region as technologically dependent and geopolitically fragile (Wilkinson, 1999; Castells, 2009).

In contrast, Russian discourse primarily emphasized narratives of stability, technological sovereignty, and state control over digital infrastructure. Official institutions framed cyber incidents as manageable threats that confirmed the necessity of strengthening national technological independence (The Central Bank of the Russian Federation, 2025). At the same time, Russian media actively circulated emotionally charged reports concerning hacker attacks, data leaks, and digital fraud, thereby reinforcing a perception of permanent cyber insecurity (Dzen.ru, 2023; Kaspersky Lab, 2025). This created a dual discourse in which narratives of stability coexisted with an atmosphere of heightened threat that legitimized the expansion of state control and regulatory mechanisms in the digital sphere (Pocheptsov, 2015). The concept of digital sovereignty became a central element of Russian political communication, reflecting concerns over geopolitical polarization and dependence on foreign technological platforms (Castells, 2009; Zuboff, 2019).

Kazakhstan presented a somewhat different case, where media discourse focused less on geopolitical confrontation and more on the practical consequences of cyber threats for everyday life. Dominant themes included phishing attacks, digital fraud, social engineering, and the protection of personal data. Public communication emphasized individual responsibility and the importance of improving digital literacy (Sharkov, 2018). Nevertheless, media coverage frequently employed dramatizing language that intensified social anxiety and supported stricter forms of digital regulation (Dotsenko, 1997). Kazakhstan also illustrates the broader relationship between digital vulnerability and global inequality. Despite efforts to modernize electronic services and digital infrastructure, the country continues to face challenges associated with technological dependence, limited cybersecurity preparedness, and insufficient digital security capacities (Couldry & Mejias, 2019).

A comparative perspective demonstrates that interpretations of cyber threats differ according to political context, state priorities, and target audiences. Ukrainian discourse was primarily mobilizational and externally oriented, Russian discourse focused on sovereignty and state control, while Kazakh discourse emphasized social protection and practical digital security challenges. Despite these differences, all three cases reveal the growing importance of media narratives in shaping public perceptions of cyber threats and legitimizing political and security measures.

The empirical analysis further confirms that cyber threats in the post-Soviet region are closely linked to broader forms of global digital inequality. States with more limited technological capacities and greater dependence on external digital systems are not only more vulnerable to cyberattacks themselves, but also to external informational and media influence (Couldry & Mejias, 2019; Zuboff, 2019). Fear associated with digital vulnerability increasingly functions as a tool of political communication, societal mobilization, and geopolitical narrative construction (Bernays, 1928; Hoskins & O'Loughlin, 2010).

3 Interpretative Risks and the Geopolitical Consequences of Digital Vulnerability

The results of the empirical analysis demonstrate that cyber threats can no longer be understood solely as technical or security-related issues. In the context of contemporary world politics, they have become part of broader processes of geopolitical rivalry, information operations, and media struggles over control of the public sphere (Castells, 2009; Hoskins & O'Loughlin, 2010). The significance of cyber incidents is therefore determined not only by their actual consequences, but also by the ways in which they are interpreted by the media, political actors, and international institutions (Wilkinson, 1999). In this context, interpretative risks gain particular importance. These risks arise in situations where factual information is transformed into emotionally or ideologically conditioned interpretations. The meaning of events is subsequently shaped through media narratives, political framing, and broader social context. Cyber incidents thus become not only security issues, but also instruments of political communication, societal mobilization, and the construction of the international image of states (Solovyov, 2019).

At the same time, the contemporary global information environment creates conditions in which informational and media influence become as important as the technological capacities of states themselves. Control over the interpretation of events represents an important element of power within international relations. Manuel Castells argues that power in the digital era is increasingly linked to the ability to control information networks, media narratives, and processes of social communication (Castells, 2009).

3.1 Mechanisms of the Formation of Interpretative Risks

One of the most significant mechanisms in the formation of interpretative risks is the use of fear as a tool for influencing public opinion. In his theory of propaganda, Edward

Bernays emphasized that emotional stimuli often have a stronger effect on society than rational argumentation because they activate fundamental defensive mechanisms within both individuals and social groups (Bernays, 1928). Within the media discourse on cyber threats, this principle is manifested primarily through dramatization and the constant repetition of security threats. Expressions such as “cyber warfare,” “digital collapse,” “hybrid aggression,” or “massive hacker attack” create an image of permanent danger that subsequently shapes social attitudes and political positions (Hoskins & O’Loughlin, 2010).

An important role is also played by the media framing of events. The same incident may be interpreted as a technical malfunction, evidence of technological backwardness, or part of a geopolitical conflict. The significance of an event therefore does not emerge automatically, but is constructed through political and media discourse (Wilkinson, 1999; Solovyov, 2019). Another important factor is the distinction between domestic and foreign audiences. Information directed toward domestic audiences often serves a mobilizational function, strengthens trust in the state, and legitimizes security measures. Foreign media, by contrast, may interpret the same events as manifestations of regional instability, technological weakness, or geopolitical risk (Sharkov, 2018).

In the post-Soviet region, this mechanism is particularly evident. Countries of the region operate within conditions of intensified geopolitical polarization and occupy asymmetric positions within the global digital system (Couldry & Mejias, 2019). Media interpretations of cyber incidents are therefore closely connected to issues of identity, security, sovereignty, and international status. Another significant mechanism involves the combination of factual information with emotional commentary and speculative forecasts. Official statements issued by state institutions are generally formulated in neutral and technical language, whereas media discourse frequently relies on dramatization, simplification, and emotionally charged rhetoric (Kara-Murza, 2000; Dotsenko, 1997). Such an environment makes it increasingly difficult for the public to distinguish objective information from media interpretation. Media outlets also make extensive use of military and catastrophic metaphors that transform technical problems into existential threats. Cyberattacks are thus presented not merely as disruptions of digital systems, but as attacks on the state, society, or national security itself. This mode of communication significantly intensifies the emotional perception of risk (Pocheptsov, 2015).

The formation of interpretative risks is also influenced by the functioning of global media and digital platforms. Shoshana Zuboff emphasizes that digital platforms today possess substantial power in shaping public debate, distributing information, and influencing social behavior (Zuboff, 2019). Control over information flows therefore becomes an important component of global power relations.

3.2 Consequences of Interpretative Risks

Interpretative risks have significant political, social, and economic consequences. One of the most visible consequences is the growth of social uncertainty and the perception of permanent threat. Long-term exposure to dramatized reports on cyber threats contributes to the normalization of security-oriented discourse and increases public support for extraordinary security measures (Bernays, 1928; Hoskins & O’Loughlin, 2010). Another important consequence is the erosion of trust in state institutions and the media. The discrepancy between official information and emotionally charged media interpretations often creates informational chaos in which it becomes increasingly difficult for the public to distinguish between facts, political communication, and manipulation (Wilkinson, 1999). In an environment characterized by information overload, greater space emerges for disinformation, conspiracy narratives, and alternative interpretations of events. Cyber threats thus become part of a broader struggle over control of the public sphere and societal perceptions of reality (Castells, 2009). Interpretative risks also possess an important geopolitical dimension. Media representations

of cyber incidents influence the international image of states and their position within the global system.

Within media discourse, Ukraine is frequently portrayed as a technologically vulnerable state dependent on external support, Russia as a major actor in hybrid and cyber conflicts, and Kazakhstan as a technologically weaker developing state. Such representations subsequently affect international relations, security cooperation, and economic ties. In the digital era, the media image of a state has become an important component of its geopolitical position.

Another important aspect is the relationship between interpretative risks and global digital inequality. States with lower levels of technological capacity and weaker control over the information space are more vulnerable not only to cyberattacks themselves, but also to external media and informational influence (Couldry & Mejias, 2019; Zuboff, 2019). This issue is also emphasized by Nick Couldry and Ulises Mejias, who discuss new forms of digital dependence and data colonialism within the global system (Couldry & Mejias, 2019). Control over data and information platforms therefore represents a new form of power inequality in the digital age.

Conclusion

This study focused on interpretative risks in the media discourse on cyber threats in the post-Soviet region, with particular attention to Russia, Ukraine, and Kazakhstan. The findings demonstrate that cyber incidents can no longer be understood solely as technical or security-related events. In the contemporary environment, they are increasingly interconnected with geopolitical rivalry, hybrid conflicts, and the media construction of social reality. The interpretation of cyber threats significantly influences public opinion, political attitudes, and the international image of states.

The theoretical part of the study was primarily based on Edward Bernays' theory of propaganda, according to which fear represents one of the most effective instruments of influencing public opinion. The analysis confirmed that this principle remains highly relevant within the contemporary media environment. Cyber threats are used not only to inform society, but also to mobilize populations, legitimize security measures, and reinforce geopolitical narratives.

The empirical analysis demonstrated that interpretations of the same incidents vary depending on political context and target audience. Ukrainian discourse was predominantly mobilizational in nature, Russian discourse emphasized stability and technological sovereignty, while in Kazakhstan dominant themes included digital fraud and the protection of citizens.

An important factor in the formation of interpretative risks is the distinction between domestic and foreign audiences. Information directed toward domestic publics often serves a mobilizational purpose, whereas foreign media may interpret the same events as manifestations of regional instability or geopolitical risk. The research also highlighted the connection between cyber threats and global digital inequality. The post-Soviet region remains highly dependent on external technological platforms and international information flows, which increases its vulnerability.

The study further emphasized the consequences of interpretative risks, particularly the growth of social uncertainty, the weakening of trust in institutions, and the spread of disinformation. One limitation of the research is that the analysis relied primarily on publicly available sources and focused mainly on the qualitative interpretation of discourse. Future research could therefore focus on quantitative analyses of media narratives and on examining the influence of digital platforms on the formation of societal perceptions of security and geopolitics. Under conditions of increasing digitalization and geopolitical polarization, the significance of interpretative risks will likely continue to grow. The ability to critically

evaluate information and distinguish between factual reporting and media interpretation is therefore becoming an essential prerequisite for the stability of modern societies.

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WHO PREPARES FOR RETIREMENT? INSIGHTS FROM SLOVAKIA[1]

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Abstract: The aim of this paper is to identify who prepares for retirement by analysing the demographic and socio-economic determinants of voluntary retirement savings in Slovakia. The empirical analysis is based on microdata from the 2021 Household Finance and Consumption Survey (HFCS) and focuses on economically active individuals aged 18-64. A binary choice model is applied to estimate the probability of participation in voluntary retirement savings. The results reveal that participation follows a nonlinear life-cycle pattern, peaking in middle age. Higher education, income, and employment stability significantly increase the likelihood of participation, while some households substitute formal pension savings with financial assets. The findings show that individuals who would benefit most from early saving participate the least. This paper contributes by providing updated evidence for Slovakia and highlights the need for targeted policy measures to address inequalities in retirement preparedness.

Keywords: voluntary retirement savings, retirement behaviour, socio-economic determinants

JEL: J11, J26, J32

Introduction

Financial preparedness for retirement has become increasingly important in recent decades, particularly in the context of population ageing, rising life expectancy, and the gradual shift of responsibility for securing retirement income from the state to individuals.

International projections suggest that the gap between retirement savings and retirement income needs will widen in the coming decades. This trend is driven primarily by demographic changes, including a growing share of older individuals and increasing pressure on pay-as-you-go pension systems. Rising life expectancy further extends the duration of retirement, thereby increasing the amount of savings required to maintain living standards in old age.

Public pension systems across Europe are facing growing pressure as the proportion of older individuals in the population increases, while the share of economically active contributors declines. In addition, replacement rates from public pension systems are expected to decrease, implying that future retirees will receive a lower proportion of their pre-retirement income.

These developments significantly increase the importance of individual retirement savings as a complementary source of income in old age. Without sufficient private provision, individuals may experience a decline in their living standards after retirement. This issue is particularly relevant in the Slovak Republic, which ranks among the fastest ageing countries in Europe and faces considerable demographic pressure on its pension system.

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Despite the growing importance of voluntary retirement savings, participation remains uneven across different socio-economic groups. While some individuals actively prepare for retirement, others remain largely unprepared. This raises an important research question: who prepares for retirement?

Understanding which groups engage in retirement saving and which do not is crucial for the design of effective policy measures. Without this knowledge, policy interventions may fail to reach the most vulnerable groups. Identifying the determinants of retirement saving behaviour therefore enables more targeted and efficient policies aimed at improving financial preparedness for old age. This paper contributes to the existing literature by providing updated empirical evidence on voluntary retirement saving behaviour in Slovakia based on recent microdata. It also offers insights into how socio-economic characteristics shape individuals' participation in retirement savings.

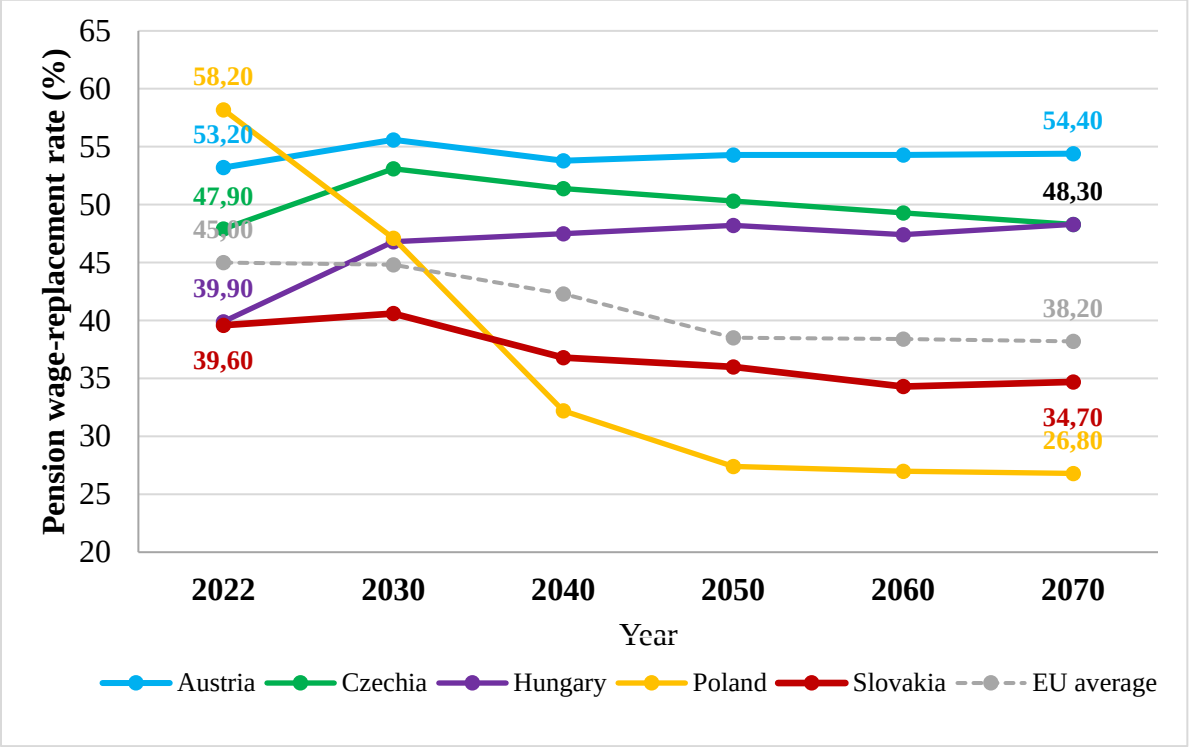
The aim of this paper is to identify the demographic and socio-economic determinants of voluntary retirement saving among Slovak households using microdata from the Household Finance and Consumption Survey (HFCS, 2021).

1 Current state of retirement preparedness - European and Slovak context

In recent decades, European pension systems have undergone significant changes, reflecting growing demographic pressures and the need to ensure their long-term sustainability. Population ageing, driven by declining fertility rates and increasing life expectancy, is gradually altering the balance between contributors and pension beneficiaries. According to OECD projections, the number of individuals aged 65 and over relative to the working-age population is expected to increase from approximately 33 per 100 persons in 2025 to 52 per 100 by 2050 (OECD, 2025).

At the same time, replacement rates from public pension systems are projected to decline. According to the European Commission (Ageing Report, 2024), the average gross replacement rate in the European Union is expected to decrease from 45 % in 2022 to 38.2 % by 2070. In practical terms, this implies that public pensions will cover a significantly smaller share of pre-retirement income, increasing the importance of supplementary sources of retirement financing.

Figure 1: Projected Pension Wage-replacement Rates in Selected Countries (2022-2070)



Own processing based on Ageing Report (2024).

Figure 1 illustrates projected pension wage-replacement rates in Slovakia and neighbouring countries between 2022 and 2070. While Austria and Czechia are expected to maintain relatively stable replacement rates, Slovakia is projected to experience a gradual decline from 39.6 % in 2022 to 34.7 % in 2070. The most substantial decrease is projected in Poland. Overall, the projections suggest increasing pressure on individuals to complement public pensions with private retirement savings. Rising life expectancy further increases pressure on pension systems by extending the expected duration of retirement. In Slovakia, the old-age dependency ratio is projected to increase from 28.5 in 2022 to 54.7 in 2050, implying a substantial decline in the number of economically active individuals per retiree.

Despite these developments, the degree of diversification of retirement income varies considerably across countries. For example, in countries such as Denmark and Sweden, private and occupational pensions represent a substantial share of retirement income, while in others, including Slovakia, public transfers remain dominant. In Slovakia, public transfers account for approximately 59.3 % of income among individuals aged 65 and over, while capital income represents only 0.4 %, indicating very limited use of financial assets as a source of retirement income.

Demographic trends further intensify these challenges. Slovakia is among the fastest ageing countries in Europe. At the same time, the population is projected to decrease by more than 16 % by the end of the century, while the average age will rise significantly. Consequently, a growing number of pension recipients will need to be supported by contributions from a relatively smaller working-age population, creating pressure to increase contribution rates, reduce replacement rates, or rely more heavily on transfers from the state budget.

These developments are accompanied by increasing pressure on the public pension system and highlight the importance of individual retirement savings as a complementary source of income. Although the Slovak pension system includes a multi-pillar structure with a voluntary third pillar, participation in voluntary retirement savings remains uneven across socio-economic groups.

This suggests that the development of individual retirement savings is not an automatic response to demographic change but rather depends on individual characteristics, economic conditions, and behavioural factors. Understanding these differences is therefore essential for identifying which groups are more likely to engage in retirement saving and which remain at risk of insufficient financial preparedness. This provides the motivation for the empirical analysis that follows.

2 Literature Review

Retirement saving has become an increasingly important component of household financial behaviour in recent decades, particularly in the context of demographic ageing and the declining adequacy of public pension systems. As responsibility for securing retirement income gradually shifts from the state to individuals, voluntary retirement savings play a growing role in maintaining living standards in old age (Cupak et al., 2019; Lagoutte & Reimat, 2013). Retirement planning represents a complex long-term decision-making process influenced by economic resources, financial literacy, and behavioural factors (Hershey et al., 2013; Spicker, 2011).

Empirical literature identifies several key determinants of voluntary retirement savings. One of the most consistently confirmed factors is age. Participation typically follows a nonlinear life-cycle pattern, increasing with age and peaking in middle age (DeVaney & Chiremba, 2005; Hira et al., 2009; Van Rooij et al., 2011). Younger individuals often exhibit lower participation due to limited financial resources, lower awareness of retirement risks, or a preference for present consumption (Foster, 2017).

Education and financial literacy are consistently associated with a higher probability of retirement saving participation, as they improve individuals' ability to understand financial products and make informed long-term decisions (Cupak et al., 2019; Mansor et al., 2015; Van Rooij et al., 2011; Xiao & O'Neill, 2016).

Socio-demographic characteristics also play a role. Married individuals are generally more likely to save for retirement, which is often explained by joint financial planning and greater responsibility for household financial stability (Johannisson, 2008). The presence of children may strengthen long-term financial planning motives, although it can also impose short-term financial constraints. Evidence on gender differences remains mixed, as observed disparities are often mediated by socio-economic characteristics such as income, education, and labour market status rather than gender itself (Mansor et al., 2015; Xie et al., 2023).

Economic factors, particularly income, wealth, and employment stability, significantly influence retirement saving behaviour. Individuals with higher income and more stable employment are better positioned to engage in long-term saving. At the same time, wealth accumulation may have a dual effect: while higher wealth can facilitate saving, some households may substitute formal pension savings with alternative financial assets (Banks & Oldfield, 2007; Van Rooij et al., 2011).

In the context of the Slovak Republic, empirical evidence remains relatively limited. One of the key contributions is the study by Pastoráková et al. (2017), which identifies age, education, income, and wealth as important determinants of voluntary retirement savings using data from the 2010 wave of the Household Finance and Consumption Survey. However, given the significant demographic and economic changes over the past decade, updated evidence is needed to better understand current patterns of retirement saving behaviour.

Overall, existing literature suggests that voluntary retirement saving is shaped by a complex interaction of demographic, economic, and behavioural factors. However, empirical evidence for post-socialist countries, including Slovakia, remains limited and partly outdated. This highlights the need for updated micro-level analysis.

Building on the existing literature and the identified research gap, this paper provides updated empirical evidence on the determinants of voluntary retirement savings in Slovakia. The following section describes the data and methodology used in the empirical analysis.

3 Data and Methodology

The empirical analysis is based on microdata from the Slovak wave of the Household Finance and Consumption Survey (HFCS) conducted in 2021 by the National Bank of Slovakia in cooperation with the European Central Bank. The dataset provides detailed information on household assets, liabilities, income, and participation in retirement savings, as well as demographic characteristics of individuals.

The analysis is carried out at the individual level and focuses on economically active individuals aged 18-64. Observations with missing values in key variables were excluded. The final analytical sample consists of 2,801 individuals. To ensure representativeness, calibrated household weights are applied throughout the analysis.

The dependent variable is defined as a binary indicator equal to one if an individual participates in voluntary retirement savings and zero otherwise. Voluntary retirement savings include private pension schemes, occupational pension plans, life insurance products, and other forms of long-term financial provision for retirement.

Based on the existing literature, a set of socio-demographic and economic characteristics is included as explanatory variables. Age is used to capture the life-cycle stage and planning horizon, while education serves as a proxy for human capital and financial literacy. Marital status reflects household structure and joint financial decision-making.

Economic characteristics include household income and financial wealth, which capture the individual's capacity to save. Financial wealth is defined as a binary indicator equal to one if net financial wealth (financial assets minus total debt) is positive. Ownership of a second property is included as an indicator of higher wealth and investment activity, potentially serving as an alternative form of retirement provision.

Additional control variables include employment characteristics, specifically employment in the public sector and in the finance or insurance sector, which may influence access to information and income stability. Household characteristics, such as the presence of children and retirees, are also included to capture life-cycle effects and potential intergenerational influences.

Given the binary nature of the dependent variable, a logistic regression model is employed to estimate the determinants of participation in voluntary retirement savings. The model can be expressed as:

$$log\left(\frac{p(x)}{1-p(x)}\right) = \beta_0 + x \cdot \beta \qquad (1)$$

where $p(x)$ represents the probability that an individual participates in voluntary retirement savings, $x$is the vector of explanatory variables, and βdenotes the vector of estimated parameters. The logistic model is chosen due to its standard use in modelling binary outcomes and the straightforward interpretation of estimated effects.

To facilitate interpretation, the results are also presented in terms of average marginal effects, which indicate the change in the probability of participation associated with a one-unit change in each explanatory variable.

4 Results and Discussion

Table 1 presents the results of logistic regression models estimating the determinants of participation in voluntary retirement savings. The results are consistent across model specifications and confirm the importance of demographic and socio-economic characteristics. Model 1 presents the full specification, Model 2 includes demographic variables only,

and Model 3 includes selected socio-economic characteristics. The estimated effects are economically meaningful and consistent with theoretical expectations.

Table 1: Determinants of Voluntary Retirement Savings Participation

	Participation in voluntary retirement savings		
Variable	**Model 1**	**Model 2**	**Model 3**
Female	-0.005 (0.085)	-0.037 (0.084)	
Age	**0.333***** (0.036)	**0.306***** (0.035)	
Age squared	**-0.004***** (0.000)	**-0.003***** (0.000)	
Tertiary education	**0.541***** (0.137)	**0.762***** (0.135)	
Married	**0.389**** (0.151)	**0.440***** (0.137)	
Employment in finance or insurance	0.525 (0.383)	**0.741*** (0.398)	
Employment in the public sector	**0.451**** (0.223)	**0.546**** (0.226)	
Financial wealth	-0.163 (0.150)		**-0.277**** (0.136)
Household income	4.893 (5.585)		3.669 (4.900)
Household income squared	-0.230 (0.298)		-0.154 (0.260)
Ownership of a second property	**0.363**** (0.150)		**0.356***** (0.137)
Retiree in the household	**-0.318*** (0.181)		-0.243 (0.159)
Children in the household	-0.048 (0.178)		**0.384***** (0.140)
Constant	-33.087 (26.193)	**-7.151***** (0.720)	-21.250 (23.013)
Number of observations	2801	2801	2801

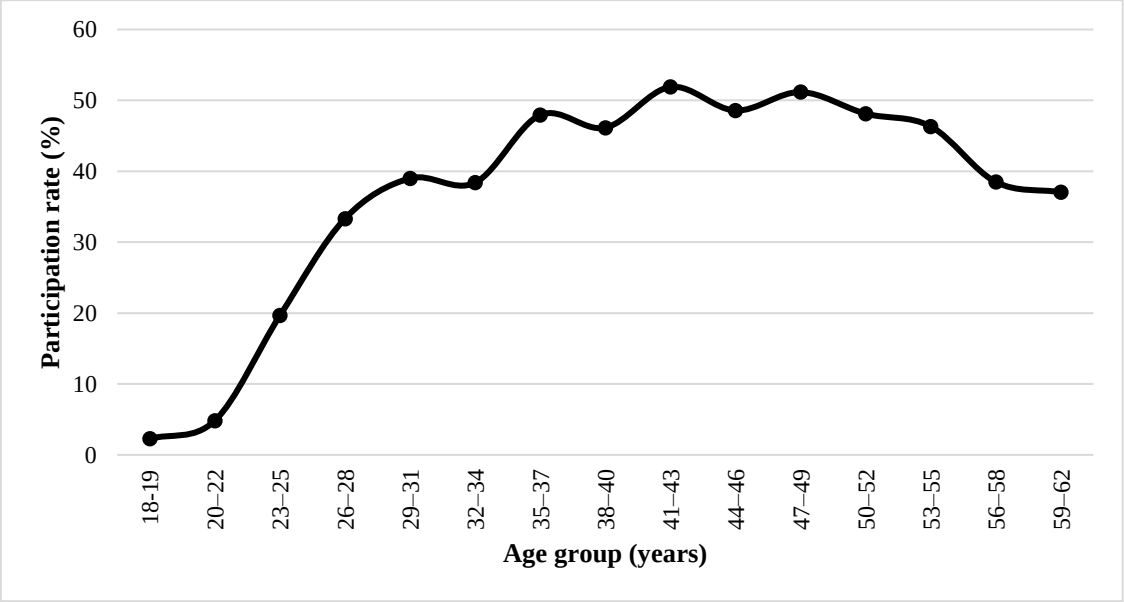
Note: Standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

Own processing based on HFCS 2021.

The empirical analysis reveals that 40.85 % of economically active individuals in the sample participate in voluntary retirement savings, indicating that private retirement provision represents an important, though not universally adopted, component of financial behaviour in Slovakia. This underscores the importance of understanding which groups are more likely to participate in retirement saving, as analysed in the following results.

Age emerges as a key determinant of participation, with a statistically significant nonlinear relationship. As shown in Figure 2, the probability of participating in voluntary retirement savings increases with age, reaches its peak in middle age, and subsequently declines. This finding confirms that retirement saving behaviour follows a life-cycle pattern, with participation peaking in middle age (DeVaney & Chiremba, 2005; Van Rooij et al., 2011), suggesting that individuals tend to postpone retirement saving until their income stabilises and their awareness of future financial needs increases.

Figure 2: Participation in Voluntary Retirement Saving by Age Group (%)



Own processing based on HFCS 2021.

Education represents one of the strongest determinants of participation. Individuals with tertiary education are significantly more likely to engage in voluntary retirement savings. This result highlights the importance of human capital and financial literacy, as more educated individuals are better equipped to understand financial products and make informed long-term decisions. The finding is in line with previous studies (Cupak et al., 2019; Mansor et al., 2015).

Marital status also plays an important role. Married individuals exhibit a higher probability of participation, which may reflect joint financial planning, greater income stability, and a stronger orientation toward long-term financial security. The positive effect of children in the household emerges only once income and wealth are controlled for (Model 3), suggesting that the initially negative correlation reflects financial constraints rather than saving motives per se.

Regarding employment characteristics, individuals working in the public sector are more likely to participate in voluntary retirement savings. This may be explained by greater job stability, lower income uncertainty, and higher exposure to institutional information about pension systems. In contrast, employment in the finance or insurance sector does not show a robust effect, indicating that access to financial knowledge alone does not necessarily translate into higher participation.

The analysis of wealth-related variables reveals a more nuanced relationship. Household income does not reach statistical significance, possibly due to its correlation with education and employment stability included in the same specification. Ownership of a second property is positively associated with participation, indicating complementarity between different forms of long-term financial planning. In contrast, financial wealth has a negative effect, suggesting a substitution relationship between holding liquid financial assets and participation in formal pension schemes. This finding highlights the heterogeneity of household portfolio choices and suggests that voluntary retirement saving should be considered as part of a broader financial strategy rather than as an isolated decision.

Gender does not appear to be a statistically significant determinant once other factors are controlled for, implying that observed gender differences in retirement behaviour are largely driven by underlying socio-economic characteristics rather than gender itself.

Overall, the results confirm that voluntary retirement saving in Slovakia is systematically associated with individuals' life-cycle stage, human capital, and economic stability. Participation is highest among middle-aged, better educated, and economically more secure individuals, while younger and more vulnerable groups remain less engaged.

Conclusion

This paper examined the determinants of voluntary retirement savings in Slovakia using microdata from the Household Finance and Consumption Survey (HFCS 2021). The results confirm that participation in retirement saving is not random but is systematically associated with individuals' life-cycle stage, human capital, and economic position.

The findings indicate that middle-aged, better educated, and economically more stable individuals are significantly more likely to prepare for retirement. In contrast, younger individuals, lower-income households, and less educated groups exhibit lower participation rates, despite facing a higher risk of insufficient income in old age.

These results highlight an important policy challenge. The findings suggest that individuals who would benefit most from early retirement saving exhibit comparatively lower participation rates. Without targeted policy intervention, voluntary retirement saving may remain concentrated among individuals who are already relatively financially secure.

From a policy perspective, the findings suggest that improving financial preparedness for retirement requires more than the mere availability of voluntary pension schemes. Effective measures should focus on increasing financial literacy, particularly among younger and less educated individuals, and on reducing behavioural barriers to long-term saving. In this context, tools such as automatic enrolment or default options may play an important role in increasing participation.

Despite its contributions, the study has several limitations. The analysis is based on cross-sectional data, which does not allow for the identification of causal relationships or changes in behaviour over time. In addition, the model does not fully capture behavioural factors, such as time preferences or financial attitudes, which may also influence retirement saving decisions. Furthermore, the dependent variable captures participation in voluntary retirement savings in a broad sense, encompassing various financial instruments. Future research could distinguish between specific saving vehicles to provide more targeted policy insights and could also use panel data to better understand the dynamics of retirement saving behaviour.

Understanding who prepares for retirement is essential for designing effective and well-targeted policy measures. In the context of rapid population ageing in Slovakia, strengthening individual retirement saving is not only a matter of personal responsibility but also a key component of ensuring the long-term sustainability of the pension system

and adequate living standards in old age. Without targeted policy intervention, existing inequalities in retirement preparedness are likely to persist or even deepen.

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AUSTRALIA AS A WORLD LEADER IN IRON ORE EXPORTS

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Abstract: Iron ore is a key commodity in the global minerals market, serving as the primary input for steel production and, consequently, as a crucial component of industrialization, construction, and infrastructure development. The dynamics of iron ore price trends are traditionally explained by demand patterns, the pace of urbanization, investment activity, and industrial output. Nevertheless, the extent to which iron ore prices are influenced by the export structure of the market itself - particularly the dominant position of the leading exporter, Australia - remains relatively underexplored. The aim of this article is to identify the significance of iron ore for Australia and to describe its importance to the global economy. The findings suggest that Australia's export performance plays a significant role in shaping iron ore prices.
Keywords: Iron ore, Australian production, export of iron ore, strategic position, steel
JEL: F14, Q02, C21

Introduction

Iron ore is one of the key commodities of the global economy, as it is closely linked to industrial production, transportation infrastructure, and energy systems. The development of the global iron ore market is shaped by dynamic processes of urbanization, industrialization, geopolitical trends, and investment expansion, while demand for the commodity reflects economic growth and business cycles across countries. Although these factors are widely regarded as the primary drivers of market price dynamics, less attention has been paid to the supply side of the market, particularly to the extent to which the export activity of dominant producers may itself influence iron ore price developments. This suggests that the country's export performance may not merely represent a passive response to global demand but may itself constitute a significant factor shaping price formation in the international market.

Among global suppliers, Australia occupies a particularly dominant position as the world's leading exporter of iron ore. Its extensive high-grade reserves, advanced mining capabilities, and well-developed export infrastructure have positioned it as a central actor in global resource supply chains. This dominance implies that Australia plays a structurally important role in the functioning of the global iron ore system, extending beyond simple trade participation to a position of systemic relevance in resource provision.

This article therefore focuses on Australia's position within the global iron ore market, with particular emphasis on its role as a dominant exporter and structural provider of a critical industrial resource. It contributes to the broader discussion on resource dependence in global commodity systems and highlights the implications of export concentration for the functioning of strategically important raw material markets.

1 Theoretical background

This study is grounded in Resource Dependence Theory (RDT), originally developed by Pfeffer and Salancik 1978, which explains how organizations and systems are constrained by their dependence on external resources that are often controlled by a limited number

of actors. According to this theoretical framework, access to critical resources creates asymmetrical power relations between resource suppliers and dependent actors, shaping both strategic behavior and systemic stability (Sarkis, Zhu & Lai, 2011; Hillman, Withers & Collins, 2009).

In the context of global commodity markets, natural resources such as iron ore represent strategically essential inputs for industrial production systems. Their distribution is geographically uneven, which results in structural dependence of importing countries on a limited number of exporting regions. Resource Dependence Theory suggests that such asymmetries generate a form of structural power, whereby resource-rich actors gain influence not only through direct control of supply but also through their position within global production networks.

Resource Dependence Theory further emphasizes that dependence is not only economic but also strategic. Countries and industries that rely on external suppliers for critical inputs are exposed to vulnerability in terms of supply continuity, industrial stability, and long-term planning. In this sense, the concentration of iron ore exports in Australia contributes to a global system characterized by asymmetric interdependence, where importing economies depend heavily on a small number of exporting actors (EBSCO, 2020).

At the same time, Resource Dependence Theory highlights that dependence can be partially mitigated through diversification strategies, such as sourcing from alternative suppliers, technological substitution, or resource efficiency improvements. However, in the case of iron ore, substitution possibilities are limited due to its unique role in steel production and the absence of economically viable large-scale alternatives (EBSCO, 2020; Han et al. 2022; Min et al. 2026).

2 Economic importance of iron ore

Iron ore is a rock and a mineral from which iron (Fe) can be extracted. It is a natural substance used for industrial processing (BHP, n.d.; Jha & Soren, 2025). Based on its chemical properties, iron ore is classified into:

Table 1: Classification of iron ore by color and iron (Fe) content

Type	Color	Fe content
Hematite	reddish-brown to dark red color	70 %
Magnetite	iron color	72-73 %
Limonite	brown color	50-60 %
Siderite	yellowish-brown to dark brown and grey color	48 %
Pyrite	golden yellow color	46,5 %
Goethitovi	black to brown color	62,5 %
Wustite	black or greyish color	79 %

Source: Author's own processing based on Ispat 2013; Maxton Industrial 2024.

Iron ore most commonly occurs in the form of hematite and magnetite, which are considered higher-quality ores. The iron content in iron ore is a key parameter determining its economic value, technological usability, and competitiveness on the market. Iron is a primary metallic element essential for steel production, while its concentration level determines the efficiency of metallurgical processing and the quality of the final product. The higher the iron content, the more usable metal can be extracted from one tonne of ore, and the lower the processing costs (Pistilli, 2025; Government of South Australia, n.d.).

Iron ore, as a strategic mineral resource, represents the primary raw material input for iron and steel production, with approximately 98% of global output being used for metallurgical processing. Steel remains an essential material, ranging from infrastructure to the automotive industry. At present, the relationship between iron ore and industrial decarbonization is also gaining importance. At the same time, steel is expected to remain an integral part of the energy transition, as solar panels, wind turbines, and electric vehicles will depend on it to a certain extent. The growing emphasis on environmental sustainability is driving the development of new production technologies, particularly the use of hydrogen in the production of so-called green steel. These changes are increasing demand for high-grade iron ores with higher iron content, which enable more efficient and environmentally friendly production (International Energy Agency, 2020).

The significance of iron ore extends beyond its physical properties and industrial usability. In macroeconomic terms, it constitutes a key intermediary commodity linking raw material extraction to downstream industrial output. Steel, produced predominantly from iron ore, is essential for both developed and emerging economies, as it enables large-scale infrastructure investment, technological development, and industrial expansion. Consequently, fluctuations in the availability, quality, and distribution of iron ore have direct implications for global supply chains and industrial production capacities.Due to its chemical properties and relatively low cost, steel is the primary structural metal used in mechanical engineering, construction, transport, cans, and containers (in the oil and gas industry):

Table 2: The role of iron ore in various economic sectors

Sector	Description
Transportation	Steel railway cars, ships, car frames, engine cylinders, railway tracks, aircraft parts
Construction industry	Steel buildings, bridges, doors, fencing, roofing, reinforcement in concrete buildings
Machines	Steel engines, pumps, cranes, drills, cutting tools
Appliances and equipment	Refrigerators, washing machines, dishwashers, cutlery, hospital equipment
Wired products	Staples, door screens, nuts and bolts, wire fences, ship cables
Electronics	Ferric chloride is used to etch copper in the manufacture of electrical printed circuit boards
Cooking	Cast iron camping stoves and woks
Decorations	Porch railings, wrought iron garden furniture

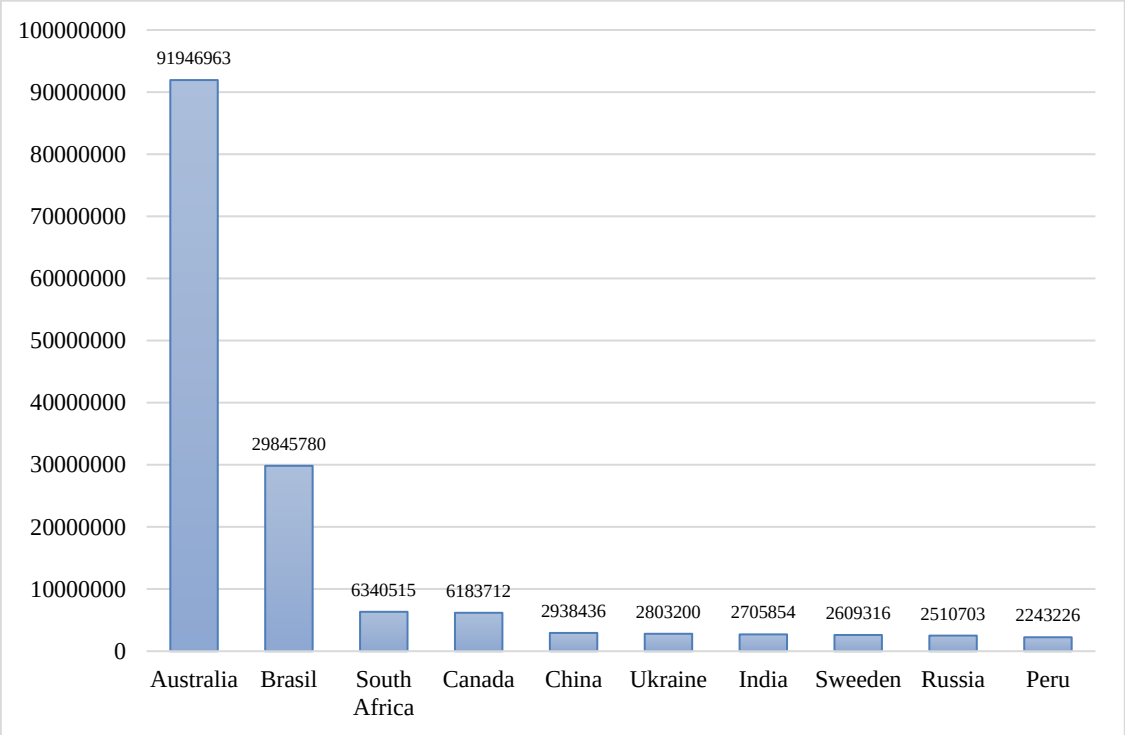
Source: Author's own processing based on Australian Government.

Global commodity markets are increasingly dependent on stable supply chains based on countries with substantial mineral reserves and advanced mining capabilities. In the case of iron ore, a particularly important feature is the high concentration of production in a relatively small number of states, especially Australia and Brazil, which together account for a substantial share of global exports. This concentration increases the efficiency of international trade; however, it also creates certain risks associated with excessive dependence on a limited number of suppliers.

The global iron ore market was valued at more than USD 301 billion in 2025 and is expected to continue growing in 2026. By 2034, it is projected to reach over USD 425 billion. Among these producers, Australia holds a particularly dominant position. The country benefits

from extensive high-grade iron ore deposits, particularly in Western Australia, combined with well-developed mining infrastructure, political stability, and strong integration into global maritime trade networks. As a result, Australia has become the world's largest exporter of iron ore, supplying a significant proportion of global demand, especially to Asian markets (Fortune Business Insights, 2026). Export-dominant countries are illustrated in Figure 1.

Chart 1: TOP 10 iron ore exporters in the world in 2024 (in thousand USD)



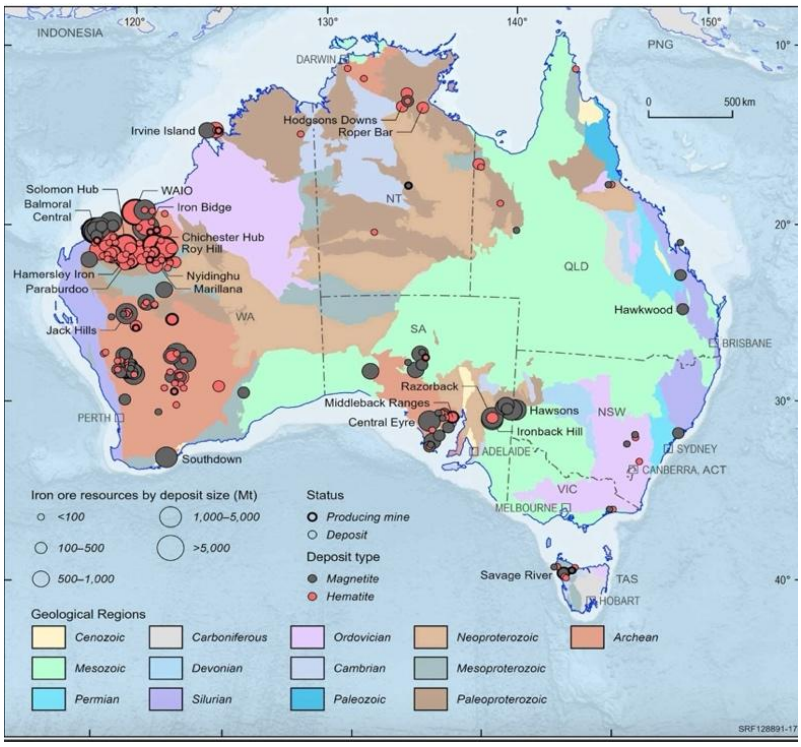
Source: Author's own processing based on UNCTADstat.

Chart 1 illustrates the structure of the largest iron ore exporters in 2024 and provides an empirical view of the regional distribution of global supply of this commodity. The presented data indicate a highly concentrated export structure of iron ore, highlighting an asymmetric balance and a high degree of market dependence. Australia holds a dominant position, significantly outperforming other players by a wide margin, while Brazil is the second most important exporter. From a global economic perspective, the importance of Australia's role extends beyond simple export volume. Given the country's dominant market share, changes in Australian production capacity, logistical conditions, or export policy can have immediate implications for global supply availability. This reinforces Australia's strategic position within global commodity networks, particularly in periods of supply disruption or demand volatility.

3 The importance of iron ore for Australia

Australia is one of the world's largest producers of iron ore and this sector represents one of the country's key export industries. Although iron ore resources are found in all Australian states and territories, almost 90% of identified reserves are located in Western Australia, including nearly 80% in the Hamersley Province, one of the world's largest iron ore-producing regions. The Australian iron ore industry is export-oriented, with approximately 85 – 90% of production being exported (Australian Government, Geoscience Australia, n.d.; Okoro et al. 2016).

Figure 1: Location of iron ore deposits in Australia



Source: Australian Government.

Western Australia (WA) is the center of Australian mining and a significant player in the global mining industry, employing more than 60,000 people in 2023 (Lalut, 2024). This region contains a large number of high-quality deposits and some of the largest mines in the country. Two of the most well-known Australian examples of massive hematite deposits are Tom Price and Mount Whaleback in the Hamersley Range of Western Australia (AusIMM, n.d.).

A recent trend is the production of high-quality magnetite concentrate through the beneficiation of low-grade magnetite ore. The resources of this material are vast, particularly in Western Australia and South Australia, while a significant portion of reserves is also located in the Northern Territory and Queensland (Government of South Australia, n.d.).

As shown in Figure 1, the Northern Territory, although exhibiting a lower mining concentration, also hosts iron ore mines such as Frances Creek, which contribute approximately 4% to its GDP, representing a significant regional share. In other regions, such as New South Wales and Victoria, iron ore production is low, as these areas are primarily focused on the extraction and processing of other strategic commodities, including coal, lithium, lead, zinc, gold, and others (Lalut, 2024).

The iron ore mining industry is highly concentrated, with mines operated by the two largest companies – Rio Tinto and BHP Billiton, which together account for approximately 70% of total ore production. This corporate structure contributes to operational efficiency, economies of scale, and consistent supply to international markets. At the same time, it reinforces Australia's structural position as a key price-relevant actor in the global iron ore system. In response to long-term challenges related to declining sales and production stagnation associated with the closure of the Yandi mine, Rio Tinto and BHP announced cooperation on selected iron ore mining and processing projects. The aim of this collaboration is to increase

their combined production capacity by 200 million tonnes per year through multiple agreements focused on developing new mining sites and modernizing infrastructure (Argus, 2026).

The following table presents the development of economically proven iron ore resources in Australia and globally over the period 1985 – 2018. The data allow for the observation of trends in available resource reserves, while also providing a comparative perspective on the situation of the commodity. The results show that Australian resources fluctuated during the observed period, with a decline occurring at the beginning of the 21st century. At the same time, Australian mining production increased, reflecting the growing importance of the country within the global iron ore supply chain. Global mining production shows steady growth, corresponding to demand for the commodity driven by industrialization and the development of the metallurgical industry.

Table 3: Iron ore resources in Australia and global data for the period 1985 – 2018

YEAR	ECONOMIC PROVEN RESOURCES	AUSTRALIAN MINING PRODUCTION	WORLD ECONOMIC RESOURCES	WORLD MINING PRODUCTION
2018	49 604	899	173 104	2 500
2010	34 500	430	191 000	2 400
2005	16 400	262	160 000	1 500
2000	13 600	168	135 600	1 010
1995	17 800	143	150 000	1 000
1990	14 700	109	151 000	929
1985	16 220	93	210 000	896

Source: Author's own processing based on Australian Government, Geoscience Australia 2023.

Table 3 presents a time series of secondary quantitative data on the development of iron ore reserves and production in Australia and globally over the observed period. The data are organized into five-year intervals, with the final year being 2018. Table 3 is based on a comparative approach, as it contrasts indicators for two variables.

Over the observed period, economically demonstrated iron ore resources increased threefold, while Australian mining production increased almost tenfold. At the global level, iron ore resources showed less dynamic development, characterized by fluctuations and uneven trends, including a decline in the 1990s followed by growth after 2005. Table 3 highlights a significant strengthening of Australia's position in the global iron ore industry, reflecting the country's growing importance in international markets.

Conclusion

Iron ore is one of the most important strategic commodities in the global economy, as it represents a fundamental input in steel production. Steel is essential for the functioning of many sectors of the economy, particularly construction, the automotive industry, infrastructure, energy, and mechanical engineering. Therefore, the development of iron ore prices significantly influences global industry, international trade, and the economic growth of countries dependent on industrial production.

Australia plays a highly significant role in the global iron ore market, as it is one of the largest producers and among the most important exporters of iron ore worldwide. The high volume of Australian exports strongly affects the global supply of this commodity and, consequently, its price development.

From an Resource Dependence Theory perspective, Australia's role in the global iron ore market can be interpreted as a structural position of resource provision rather than merely

a function of trade volume. The country's extensive reserves, high extraction capacity, and established export infrastructure place it in a central position within global resource networks. This structural advantage enables Australia to function as a key supplier whose production decisions and export capacity have systemic implications for dependent industrial economies.

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SILVER MINING IN MEXICO IN THE CONTEXT OF THE GLOBAL ECONOMY

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Abstract: In this paper, we focus on contemporary silver mining in Mexico while also taking historical contexts into account. We characterize the Mexican mining sector and, through analytical and comparative methods, evaluate Mexico's position in the global silver market. Mexico's position as a silver producer, accounting for approximately one quarter of global production, is stable and largely influences the world price of silver. At the same time, Mexico is the world's fifth-largest exporter of silver, although actual export volumes are estimated to be higher due to re-exports as well as commodity and financial transactions conducted by multinational companies operating in Mexico's mining sector.
Keywords: Mexico, silver production, mining
JEL: B27, L72

Introduction

In this paper, we examine contemporary silver mining in Mexico while also taking into account its historical context. Following a brief characterization of the Mexican mining sector with a particular emphasis on silver, we employ analytical and comparative methods to assess Mexico's current position as a producer and exporter of silver within the global economy.

It should be noted that the significance of silver has been increasing in recent years, primarily due to its expanding industrial applications, particularly the strong demand from the solar energy sector, electromobility, and critical infrastructure industries, which has consequently contributed to the rising price of silver as a precious metal. During 2025, the price of silver doubled. Price increases were also influenced by expectations and concerns regarding the imposition of tariffs by the United States on Mexico, which remains a leading producer of mineral resources and the world's foremost producer of silver.

From a historical perspective, silver has long been among Mexico's principal export commodities. At present, Mexico accounts for approximately one quarter of global silver production, and Mexican silver plays a significant role in the global economy not only as a raw material for jewelry production, but also as an essential component in electronics manufacturing, photovoltaic solar cells, mirror production, photography, and medicine due to its disinfectant properties. Furthermore, silver serves as an important investment asset in the form of coins, medals, bullion bars, and silver-based investment funds. After gold, silver is the second most traded precious metal in the world.

The importance of silver has grown substantially in recent decades, particularly in connection with the green energy transition, including photovoltaic solar panels, electric vehicles (EVs), and 5G infrastructure.

1 Production of silver in Mexico

Mexico is among the world's major producers of minerals in the global economy. At present, it is the world's largest producer of silver, the second-largest producer of calcium

fluoride, the third-largest producer of sodium sulfate, and the fourth-largest producer of lead. Mexico also ranks among the world's top ten producers of gold and copper (9th place in gold production and 10th place in copper production). The five most important minerals account for 86.3% of Mexico's national mining and metallurgical production value: gold contributes 30.6%, followed by copper with 27.2%, silver with 17.6%, zinc with 7.1%, and iron pellets with 3.8% (International Trade Administration, 2026).

From a historical perspective, Mexico has long ranked among the world's most significant producers of silver. Silver has shaped Mexico both economically and culturally for several centuries, with its importance extending back to the pre-Columbian period. The peak of silver extraction was reached following the discovery of the New World, particularly after the conquest of the Aztec Empire by European colonizers during the sixteenth century. The strong European demand for silver fundamentally transformed the character, scale, and methods of silver mining in Mexico. Spanish colonization introduced advanced mining techniques[1] and substantially increased the extraction of precious metals, thereby transforming the economy of the New World. In the mid-sixteenth century, the discovery of extensive silver deposits in Zacatecas and Guanajuato led to a major expansion of mining activity that persisted for centuries. Abundant silver deposits were discovered in these regions, triggering a long-lasting mining boom (Identic Solution, 2026). It was precisely in Zacatecas that the second-largest abundance of silver in the New World was found, surpassed only by Potosí. Over the following centuries, approximately 170 tons of silver were transported annually across the Atlantic – by around 100 ships – to the Spanish city of Seville (Ferguson, 2011, p. 37), which served as the monopolistic center for trade with the New World. Silver generated substantial wealth for the Spanish Empire, while the mining industry in Mexico expanded significantly and became the foundation of the local Mexican economy. However, this development also brought major challenges, including wealth and income inequality, regional disparities, dependence on foreign markets, and the stagnation of other industrial and agricultural activities, some of which persisted in Mexican society for several centuries. Mining relied heavily on forced labor, initially involving the indigenous population and later enslaved Africans, through systems such as the *Encomienda*[2] and *Repartimiento.*[3] Mining production centers gradually developed into colonial cities that functioned as economic hubs within the colonial system, as well as cultural centers characterized by rapid population growth and expanding economic opportunities. A negative consequence of this rapid development of new colonial centers was the unequal distribution of wealth, which became concentrated in the hands of European elites. During the sixteenth to eighteenth centuries, it is estimated that silver production in Mexico, together with Bolivia and Peru, accounted for more than 85% of global silver production.

The era of independence, following the brief crisis of the mining industry after the declaration of independence in 1821, built upon the foundations of the colonial period, and mining activities continued to expand. Investments made by Spanish capital and colonial elites — including aqueducts, hydraulic systems, and mining know-how – served as a stimulus for further investment throughout the nineteenth century. From the second half of the nineteenth century onward, the Mexican mining industry attracted substantial investments primarily from Britain and the United States. At the same time, new technologies introduced from abroad,

[1] For example, the so-called *patio process*, a method involving the use of salt, copper sulfate, and mercury with silver ore, was developed by Bartolomé de Medina in 1554.

[2] The Spanish Crown granted colonizers (encomenderos) the right to use the labor of the indigenous population in exchange for their protection and Christianization.

[3] A later labor system intended to replace the encomienda and limit its abuse (the exploitation of the indigenous population). Indigenous people were forcibly assigned to temporary work in mines, agriculture, or construction for low wages. The system proved ineffective and was only formally established.

such as steam pumps and advanced metallurgical techniques, enabled deeper and more efficient excavation, thereby increasing mineral extraction. Mining activity also expanded due to the contributions of the European traveler Alexander von Humboldt, whose geological surveys and published data on mineral wealth attracted additional European investors to previously unexplored geographic regions. Gradually, from the second half of the nineteenth century, Mexican mining legislation was modernized, and tax incentives were introduced to encourage foreign investment in Mexico.

Despite the initial decline in silver production following the declaration of independence, Mexico continued to account for nearly 40% of global silver production between 1821 and 1870. During this period, silver mining remained crucial to the Mexican economy. From a fiscal perspective, silver mining consistently represented a significant share of federal government revenues, accounting for 9% of revenues between 1824 and 1844, and rising to 27% between 1848 and 1870 (Kuntz-Ficker & Encabo-González, 2025). During the nineteenth century, the share of silver mining in Mexico's GDP gradually declined. While it accounted for 10.7% of GDP at the beginning of the nineteenth century, its share had fallen to 5% by 1845. Subsequently, as a result of the economic and political stabilization of the newly established republic and the inflow of foreign capital, the share increased again to 6.6% of GDP (Table 1).

Table 1: Contribution of silver mining to Mexico´s GDP, 1800-1870

	GDP (millions of current pesos)	Silver produced (A) (millions of current pesos)	Contribution of (A) to GDP (%)
1800	240,318	25,806	10.7
1810	228,000	17,951	7.9
1845	268,746	15,237	5.7
1860	292,371	15,366	5.3
1870	324,700	21,294	6.6

Source: Kuntz-Ficker & Encabo-González (2025). Revista de Historia Industrial. https://doi.org/10.1344/rhiihr.41550

Silver production in Mexico, as well as the entire Mexican mining sector, was negatively affected during the twentieth century by the Mexican Revolution (beginning in 1910), which plunged the country into economic and political crisis. The mining sector suffered extensive damage; many mines were destroyed, production was severely disrupted, and foreign investors withdrew, leading to a sharp decline in output. Following the Revolution, a new Constitution was adopted in 1917, establishing national control over the country's natural resources, thereby subjecting the mining sector to strict regulation. Although nationalization policies continued during the presidency of Lázaro Cárdenas, the Mining Law adopted in the 1940s simplified the concession-granting process and encouraged investment not only in mining itself but also in infrastructure projects, including the construction of roads and railways. These developments subsequently strengthened the mining industry by more closely integrating mining regions into the national economy (Identic Solution, 2026).

From the second half of the twentieth century onward, the importance of other industrial sectors increased, and the overall share of the mining sector in Mexico's GDP gradually declined. Nevertheless, the extraction of mineral resources has remained of strategic importance to the national economy. At the same time, mining operations have undergone gradual modernization, including a shift toward greater sustainability in response to increasing conflicts between mining activities, environmental protection, and the interests of communities living in mining regions. Mexico has sought to address these challenges through legislative reforms,

including the Mining Law of 1992, which aimed to balance investment promotion with environmental and social concerns in order to achieve greater transparency and accountability, although enforcement has remained a significant challenge (Identic Solution, 2026). The current administration of President Claudia Sheinbaum has also signaled a more environmentally oriented approach to mining. Although no entirely new mining law has yet been adopted, the government continues to implement the 2023 mining reform introduced under President Andrés Manuel López Obrador,[4] which has intensified public debate regarding environmental protection and the environmental impacts of mining in Mexico. Nevertheless, exceptions continue to emerge in the case of strategically important minerals, where the process of granting mining concessions has in some instances been accelerated. This has occurred despite the president's declaration that Mexico would no longer grant new mining concessions (S&P Global, 2025).

The mining industry has traditionally contributed between 2% and 5% to Mexico's GDP and supports approximately 70 additional industrial sectors. In 2024, the mining sector accounted for 2.77% of Mexico's GDP and 8.70% of industrial GDP, representing an increase in both cases compared to 2023. The growth in both production volume and the value of mining output was driven primarily by precious metals, including silver, whose value increased by as much as 42.3%, mainly as a result of a favorable price cycle (CAMIMEX, 2026). The mining sector also plays a crucial role in employment, supporting millions of jobs across the country.

The largest silver deposits are located in the states of Zacatecas (accounting for 40.1% of the country's silver production), Durango (20.5%), Chihuahua (19.2%) (CAMIMEX, 2026, pp. 42–43), as well as Sonora, Guanajuato, San Luis Potosí, Guerrero, and Hidalgo (Fig. 1). The largest mines in Mexico include Peñasquito Mine, Juanicipio, San Julián, Fresnillo, and Saucito (Mining Technology, 2024). The majority of production is concentrated within the so-called "Mexican Silver Belt" (*La Faja de Plata*) located in the northern and central regions of the country. As many as 11 of the world's top 30 silver-producing mines are located in Mexico (Metal Market Europe, 2023).

Historically, silver mining was concentrated primarily in the states of Zacatecas, Guanajuato, and Hidalgo. More recent acquisitions have taken place in the state of Durango (Silver Dollar Resources from Canasil Resources, February 2024), Sonora (Silver Viper Minerals from N. D., June 2024), Hidalgo (Fortuna Mining, August 2024), Chihuahua (Silverco Mining from Sierra Metals in July, First Majestic Silver and Gatos Silver in September 2025, and Advance Metals from Golden Minerals in October), and Sinaloa (Vizsla Silver from Exploradora Minera La Hacienda in October), among others. (CAMIMEX, 2026, pp. 30–32).[5] These transactions mainly involved full or partial acquisitions carried out by foreign entities in cooperation with Mexican companies, while in some cases acquisitions took place exclusively between foreign business entities. The mining sector in Mexico is among those with the highest levels of foreign participation, alongside the manufacturing industry. The leading silver mining companies include Fresnillo plc (Mexico), accounting for approximately 30% of national silver production and 6.6% of global production, followed by Newmont (USA), First Majestic Silver (Canada), Grupo México (Mexico), and Coeur Mining (USA) (CAMIMEX, 2026, p. 43).

[4] This law shortened the duration of concessions, increased environmental requirements, introduced stricter rules for water use, and strengthened the rights of local communities and the state.

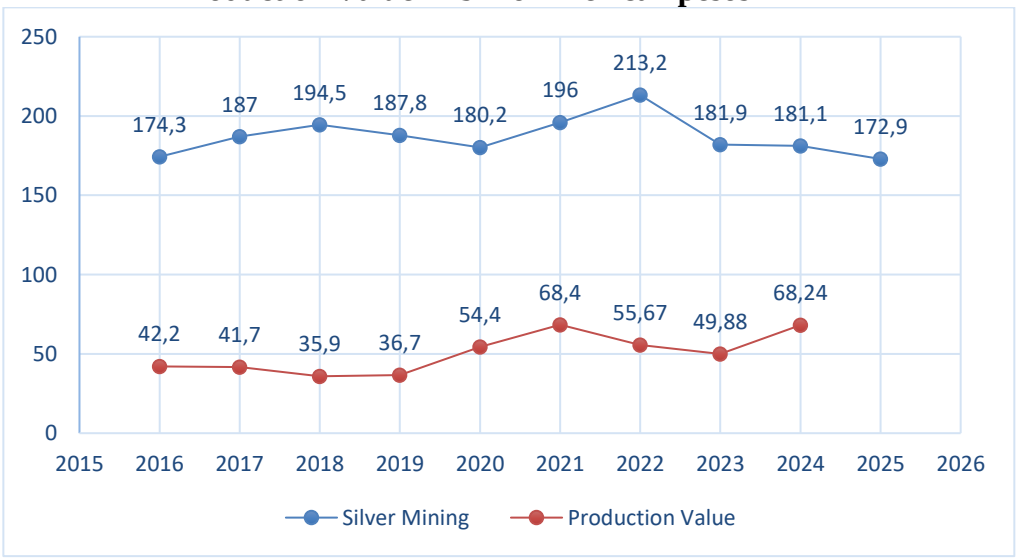
[5] Most projects are not focused solely on silver mining, but also on other metals, especially gold, copper, lead, and in some cases zinc.

Figure 1: Silver extraction in Mexico, by states

Source: CAMIMEX. (2026). Informe Anual 2025 (pp. 42–43);
Mining Technology. (2024). The five largest silver mines in operation in Mexico.

Mexico is currently the world's largest producer of silver, with production valued at 49.88 billion Mexican pesos in 2023, representing the lowest level recorded since 2019 (Statista, 2025). Mexico accounts for approximately one quarter of global silver production. According to the Mexican Mining Chamber – CAMIMEX (*Cámara Minera de México*), silver production reached *181.1 million ounces in 2024. In value terms, production amounted to 68.241 billion pesos, representing an increase of 42.3% compared to the previous year. This growth resulted from a combination of high silver prices, increased production levels, and a more favorable peso–dollar exchange rate than that recorded in 2023. In terms of value, silver mining and metallurgical production contributed 21.8% to total national mining output, ranking immediately after gold and copper* (CAMIMEX, 2026, p. 96). In 2025, silver production declined by 5% to 172.9 million ounces. This decrease was caused by operational disruptions, changes in government policy, and the depletion of reserves. The peak of silver extraction during the past decade was reached in 2022 (Figure 2) (Silver Institute, 2026, p. 28). A further, though only marginal, decline is expected in 2026 (by up to 0.4%).

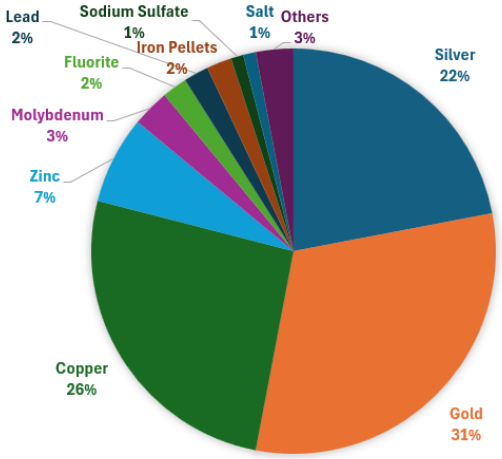
Figure 2: Silver Mining Production, 2016-2026 in million ounces, and as Production Value in billion Mexican pesos



Source: Own processing based on Silver Institute (2026), Statista (2025), and CAMIMEX (2026).

Silver, after gold (with a share of 30.7%) and copper (26.5%), remained the third most significant product of Mexico's mining industry in 2024, accounting for 21.8% of the country's mining production mix. (Figure 3) (CAMIMEX, 2026, p. 27).

Figure 3: Percentage Share By Mineral In The Value Of Mining-Metallurgical Production In 2024

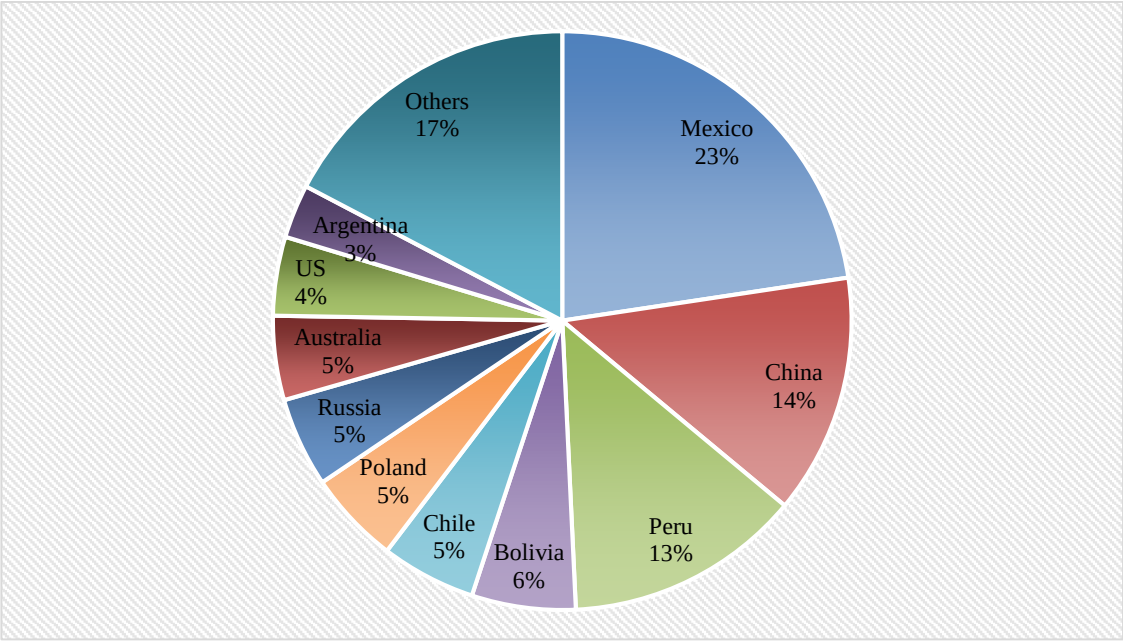


Source: CAMIMEX. (2026). Informe Anual 2025 (p. 27).

2 Mexican Silver in the Global Economy

Overall, the position of Latin America is crucial from the perspective of global regions, as it contributes more than half of total world silver production. Among the five leading silver-producing countries, four are located in Latin America: Mexico, the world's largest silver producer, followed by Peru, Bolivia, and Chile. Other major silver producers globally include China (ranked second), Poland, Russia, Australia, and the United States (Figure 4).

Figure 4: Percentage Share In The Silver Production in 2024, by country

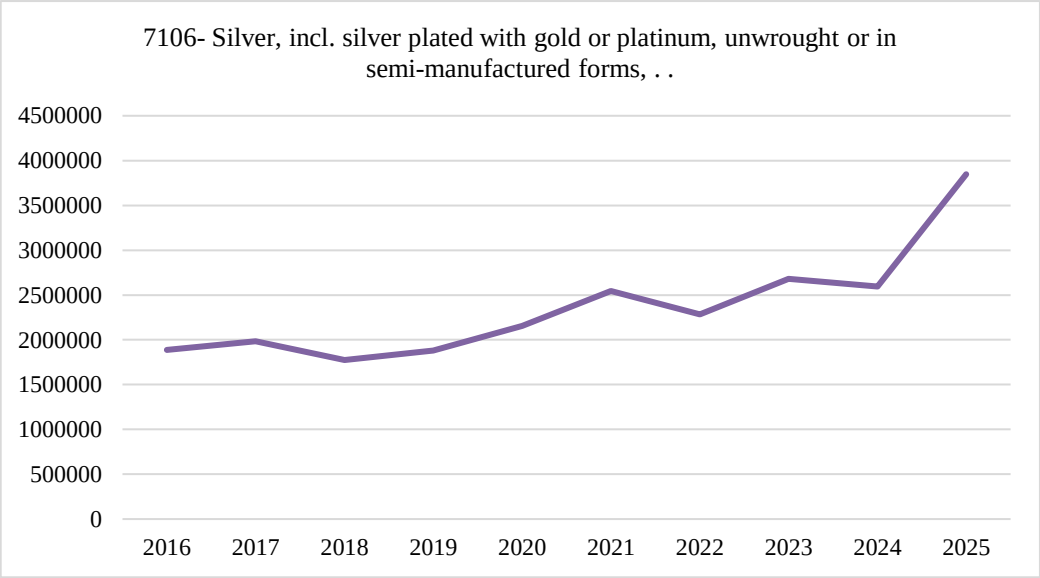


Source: CAMIMEX. (2026). Informe Anual 2025 (p. 42).

Despite the global decline in the production of both metallic and non-metallic minerals in general, it should be noted that global silver production increased year-on-year. This growth has been driven primarily by rising global demand for silver, closely associated with the energy transition and the expanding industrial use of silver. Mexico is the world's fifth-largest exporter of silver (after the United Kingdom, the United States, Hong Kong, and the People's Republic of China), accounting for a 6.8% share of global silver exports. It is estimated that the majority of silver produced in Mexico is exported in the form of refined silver, semi-manufactured products, and silver incorporated into industrial goods and jewelry. Most Mexican silver production is exported to the United States (more than 90%), followed by Canada, and intermittently to countries within the region (e.g., Argentina and Costa Rica), as well as to Switzerland and Italy (ITC, 2026).

In the main category 7106 – Silver, including silver plated with gold or platinum, unwrought or in semi-manufactured forms, etc., Mexico recorded a 10% increase in exports over the five-year period 2021 – 2025, driven by rising global silver prices and increased demand for silver as a material used in industrial products. The increase between 2024 and 2025 was even more significant, reaching 48%. Mexican silver exports account for 6.8% of global silver exports (ITC, 2026). The following graph illustrates the growth of silver exports (in USD) over the past ten years.

Figure 5: Mexican Exports in thousands USD



Source: Own processing based on ITC (2026). List of products exported by Mexico.

The five-year growth rate (2021–2025) indicates an 82% increase in exports of unrefined silver ore (raw extracted rock containing silver, or partially processed concentrate) from Mexico (ITC, 2026).

Despite the fact that Mexico is the world's largest producer of silver, it ranks only fifth in terms of silver exports for several reasons. A significant share of silver production is processed directly within Mexico, particularly in the jewelry industry, the automotive sector, and the production of Libertad coins[6]. In addition, silver is often exported in other forms or is not recorded as pure silver in trade statistics, as it may constitute part of alloys, other metallic concentrates, semi-manufactured products, coins, or industrial products containing

[6] Libertad Coin - the official silver bullion coin of Mexico, produced by the Casa de Moneda de México, minted since 1982.

silver. Furthermore, a substantial portion of exports is conducted through transnational corporations. As reported by CAMIMEX, a considerable share of Mexican gold and silver production is contained within zinc, lead, and copper concentrates that are exported abroad for refining. Moreover, numerous small refineries in Mexico process gold and silver scrap, although official statistics on processed volumes are not available. In addition, silver recycling has increased in recent years due to the long-term imbalance between global silver supply and demand (CAMIMEX, 2026, pp. 60–90).

Last but not least, it should be emphasized that Mexico serves as the "bedrock of global silver supply," given that any fluctuations in Mexican silver production may increase price volatility on global markets and lead to increases or decreases in the world price of silver as a consequence of changes in global silver supply.

Conclusion

Mexico is currently the world's largest producer of silver, accounting for approximately one quarter of global production. Nevertheless, it ranks only as the world's fifth-largest exporter of silver, which is largely related to the statistical reporting practices of transnational corporations, the domestic processing of silver into goods and semi-manufactured products classified under other export categories, and the export of silver as a component of other mineral concentrates. In recent years, silver production in Mexico has declined slightly; however, its overall value has continued to rise due to the increase in global silver prices. It is expected that Mexico's position in the global silver market will remain stable over the coming decades.

On the other hand, the Mexican mining industry faces numerous environmental challenges, including high water consumption and environmental pollution, as well as social challenges such as conflicts with local communities, disputes over land ownership rights, displacement, and broader social tensions.

Additionally, as the world's largest silver producer, Mexico plays a crucial role in determining global silver prices. Changes in Mexican silver production, mining legislation, or export policies may significantly affect global supply and consequently influence price volatility in international silver markets. This further underscores Mexico's strategic position as a global silver mining powerhouse.

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FISCAL POLICY AND INCOME INEQUALITY IN THE EUROPEAN UNION: REDISTRIBUTOVE ROLE OF TAXES AND PUBLIC SPENDING[1]

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Abstract: This paper examines the impact of taxation and selected public expenditures on income inequality in EU countries during major economic shocks. Using panel data from 2000 onward, we estimate panel fixed-effects models with Driscoll–Kraay standard errors. The results show that higher corporate income tax revenues are associated with lower inequality, while unemployment increases and trade openness reduces the Gini index. Among expenditures, family benefits and housing reduce inequality, whereas education spending is positively associated with inequality and health spending is not statistically significant. These findings suggest that the redistributive effects of fiscal policy depend on the design and targeting of instruments. The study contributes by providing evidence across multiple crisis periods and offers implications for more effective inequality-reducing policies in the EU.
Keywords: fiscal policy, income inequality, Gini index, public incomes, public expenditure, Driscoll-Kraay model.
JEL: E62, D63, C23

Introduction

Several serious shocks over the past two decades, resulting in high inflation, together with technological changes, represent a major challenge for fiscal policy in reducing income inequality. In this context, fiscal policy plays a dual role: ensuring macroeconomic stability and influencing income distribution. Progressive taxation and social transfers are expected to reduce inequality, but their effectiveness depends on institutional settings and the structure of revenues and expenditures. Differences in EU between older member states and newer Central and Eastern European (CEE) countries remain particularly relevant. This article aims to identify which public expenditures and tax instruments most effectively reduce income inequality in EU countries by estimating fixed-effects panel models (with Driscoll–Kraay inference) that test the significance and direction of their impacts on the Gini index. Additionally, we examine the role of tariffs in the context of trade wars, specifically the rising tensions resulting from changes in U.S. tariff policy.

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1 Literature Review

According to Berisha et al. (2023) and Ravallion (2014), income inequality has been significantly increasing across countries, driven by widening disparities in gross income levels, unemployment rates, and the redistributive effects of taxes and social transfers. The causes of income inequality differ across countries and reflect the functioning and diversity of individual economic policies and systems. While some countries experienced relative stability of income inequality, others recorded significant increases, particularly after the global financial crisis. Sauer, Rao, and Pachauri (2023) highlight the complex drivers of inequality trends, including structural changes in labor markets and technological change. Roine and Strömberg (2025) emphasize the role of EU enlargement, noting that CEE countries tend to exhibit higher inequality levels, which have contributed to divergence within the Union. A systematic literature review of Central and Eastern Europe also confirms persistent regional differences and highlights institutional weaknesses that amplify distributional disparities (Dorjnyambuu, 2024). Recent studies suggest that inequality has been deepening in response to worsening economic conditions. A comprehensive review of EU income distribution patterns finds that the pandemic and subsequent inflationary shock disproportionately affected low-income households, widening inequality gaps (Filauro & Parolin & Valetto, 2024).

Fiscal policy is widely regarded as a key instrument not only for macroeconomic stabilization but also for long-term growth and redistribution. Endogenous growth theories argue that public expenditures in education, health, and social protection strengthen human capital and employment, thus supporting output and reducing inequality (Zagler, 2003; Benos, 2009). When fiscal expenditures exceed revenues, public deficits and debt rise, potentially creating long-term risks. However, targeted investment in infrastructure, health, or research can promote economic growth and simultaneously reduce income disparities (Malla & Pathranarakul, 2022).

Expansionary fiscal policy is often justified during periods of economic downturn. According to Kappel and Janku (2014), increasing public investment in infrastructure during recessions can stimulate demand, reduce unemployment, and mitigate inequality. Conversely, poorly designed tax reforms may harm both growth and equality, as Jord and Taylor (2013) point out. Amores et al. (2024) analyze the post-pandemic period and conclude that fiscal measures targeting vulnerable households played a crucial role in cushioning the distributional impact of inflation. Similarly, evidence shows that social transfers significantly reduce poverty risks, particularly for larger families in the EU (Ilmakunnas et al., 2025).

The redistributive impact of fiscal policy operates mainly through taxation, transfers, and public expenditures. Direct taxes such as personal and corporate income taxes are generally progressive, while indirect taxes such as VAT and import duties are regressive (Kim & Lim, 2023). Arnold (2011) even argued that reducing corporate income taxation could stimulate long-run growth through lower interest rates and increased credit availability, although the distributional impact remains debated. These contrasting perspectives highlight the dual role of fiscal policy in promoting economic growth while also influencing income distribution. Han et al. (2025) examine the effects of trade and tariffs on income and inequality using a general equilibrium model, finding that while free trade tends to raise overall revenues and slightly reduce inequality, tariff competition lowers aggregate welfare and may intensify distributional imbalances. Empirical studies consistently find that social transfers and investments in education and health reduce inequality (Malla & Pathranarakul, 2022). At the same time, the risk of corruption and rent-seeking in some countries may offset the effectiveness of such policies. Salotti and Trecroci (2013) provide evidence that expansionary fiscal policy reduces inequality, while restrictive fiscal policy primarily affects public debt.

2 Data and Methodology

The analysis is based on an annual panel of 27 EU member states from 2000, with the Gini coefficient (disposable income; post-tax and post-transfer) as the measure of income inequality. Although income and wealth inequality measure related concepts, income inequality is the more suitable dependent variable for analysing the redistributive effects of fiscal policy. Taxes and government spending directly influence household income flows, while wealth inequality evolves slowly through inheritance, capital gains, and asset price movements that fiscal policy affects only indirectly. Income inequality is also measured annually and consistently across EU countries, unlike wealth inequality data, which are infrequent and less comparable. A simple correlation check confirms that the two measures do not move closely enough to justify using wealth inequality in a yearly panel model, supporting the choice of income inequality as the main outcome variable.

Most independent variables are expressed as a percentage of GDP. On the revenue side, value added tax (VAT) is included as a typically regressive tax, while personal income tax (PIT) and corporate income tax (CIT) are considered progressive, though their redistributive power depends on progressivity and enforcement. Import duties (Duties_IMP) are added as a control for trade-related revenues. On the expenditure side, the study considers providing social security and welfare (Soc_protection) , healthcare services (Health), all levels of education (Educ), housing assistance programs for low-income individuals and families (Housing), services for children and families (Family), unemployment benefits (Unemp), activities that promote economic growth and development (Eco_affairs), defence (Defence) and general functionaling of government (Gen_pub_serv), as these categories most directly affect disposable income. Standard macroeconomic controls as inflation (HICP), unemployment rate (UNRATE), trade openness (OPEN) are also included to capture cyclical and structural effects and mostly to mitigate omitted-variable bias in the estimated fiscal effects on the Gini. The empirical strategy employs panel regressions with country fixed effects and year dummies, estimated with Driscoll–Kraay robust standard errors to address heteroskedasticity, autocorrelation, and cross-sectional dependence. Therefore, our baseline model can be written as:

$$Gini_{it} = \alpha_i + \beta_1 VAT_{it} + \beta_2 PIT_{it} + \beta_3 CIT_{it} + \beta_4 Gov_Def_{it} + \beta_5 Gov_exp_{it} + \beta_6 HICP_{it} + \beta_7 UNRATE_{it} + \beta_8 OPEN_{it} + u_{it} \quad (1)$$

Second, we disaggregate public expenditure to identify which functions significantly reduce income inequality.

$$Gini_{it} = \alpha_i + \beta_1 VAT_{it} + \beta_2 PIT_{it} + \beta_3 CIT_{it} + \beta_4 Duties_{IMP\,it} + \beta_5 Gen_pub_srv_{it} + \beta_6 Defence_{it} + \beta_7 Soc_protection_{it} + \beta_8 Eco_affairs_{it} + \beta_9 Educ_{it} + \beta_{10} Health_{it} + \beta_{11} Housing_{it} + \beta_{12} Unemp_{it} + \beta_{13} Family_{it} + \beta_{14} HICP_{it} + \beta_{15} UNRATE_{it} + \beta_{16} OPEN_{it} + u_{it} \quad (2)$$

To capture delayed effects, subsequent specifications include lagged health and education outlays as robustness checks. In addition, the use of lags serves as a robustness check, strengthening the credibility of the results. To capture the most significant variables we decided to present our main specification as:

$$Gini_{it} = \alpha_i + \beta_1 VAT_{it} + \beta_2 PIT_{it} + \beta_3 CIT_{it} + \beta_4 lag2Educ_{it} + \beta_5 lag2Health_{it} + \beta_6 Family_{it} + \beta_7 Housing_{it} + \beta_8 Unemp_{it} + \beta_9 HICP_{it} + \beta_{10} UNRATE_{it} + \beta_{11} OPEN_{it} + u_{it} \quad (3)$$

The empirical analysis is based on collected data from several international databases to ensure comparability and consistency across countries. Expenditure data were obtained from the International Monetary Fund (IMF), providing detailed information on government

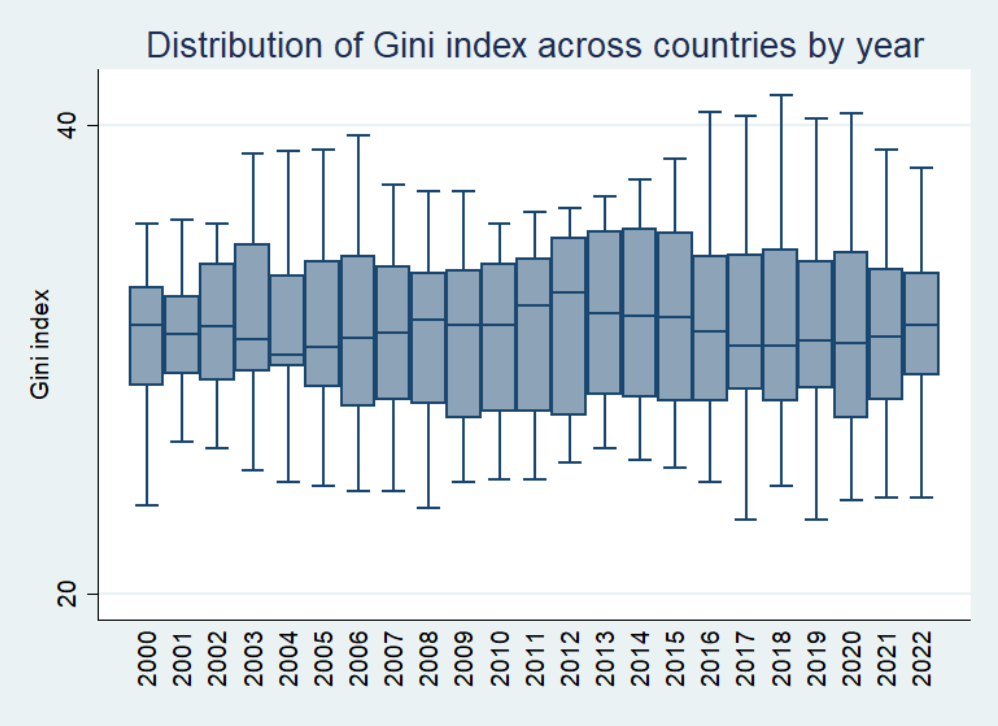
spending categories. Data on direct and indirect taxes, as well as duties, were sourced from the European Central Bank (ECB), which offers harmonized fiscal indicators for EU member states. To capture income inequality and macroeconomic controlled variables were taken from the World Bank's database.

3 Results

This section presents empirical findings on the redistributive effects of fiscal policy in the European Union. The analysis begins with a descriptive overview of income inequality across member states, highlighting both cross-country heterogeneity and temporal dynamics. This provides a background against which the econometric models can be interpreted. Subsequently, the results of the panel regressions are reported, starting with the baseline specification and followed by extended models and macroeconomic controls, as well as robustness checks with lagged variables.

Figure 1 shows yearly box-plots of the EU Gini index (2000–2022). The median stays near 30, but the spread across countries is wide and time-varying, largest around 2012–2018. This pattern means countries differ a lot even while facing common shocks. For that reason, we estimate country and year-fixed effects and use Driscoll–Kraay standard errors, which are robust to heteroskedasticity, serial correlation, and cross-sectional dependence created by shared EU shocks.

Figure 1: Heterogeneity across countries



Source 1: Own processing in Stata based on data Wrold Bank 2025

Before estimating the panel model, we first examine the descriptive statistics in table 1 to understand the basic patterns in the data. The results show that countries in the sample differ significantly, both in income inequality and in the structure of their fiscal policies. The Gini index ranges from 23 to 41, indicating notable variation in income dispersion. Core government spending categories, especially social protection, education, and health, also display differences, suggesting that countries rely on different levels of redistributive support. Tax

variables, such as PIT, CIT, and VAT, are very diverse as well, reflecting diverse tax systems and revenue strategies. Fiscal balances range from deep deficits to small surpluses, pointing to different budgetary conditions. These differences provide a solid foundation for analysing how fiscal policy choices relate to inequality outcomes in the subsequent panel regression.

Table 1: Descriptive statistics

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
Gini	567	31.27	3.654	23.20	41.30
Gen_pub_srv	592	6.288	1.984	2.256	13.04
Defence	592	1.280	0.550	0.204	3.646
Eco_affairs	592	5.405	1.881	2.121	25.07
Soc_protection	592	16.31	4.147	7.907	27.11
Educ	592	5.137	0.933	2.821	7.130
Health	592	6.082	1.454	2.457	10.08
Family	583	1.884	0.934	0.441	5.453
Unemp	583	1.101	0.837	0.0503	4.311
Housing	583	0.237	0.260	0	1.084
VAT	621	7.641	1.480	3.300	13.30
Duties_IMP	621	0.736	0.978	0.100	5.100
PIT	525	7.645	5.095	2.200	29.10
CIT	621	0.821	1.022	0.100	5.100
UNRATE	609	8.507	4.283	1.900	27.82
Gov_exp	575	45.22	7.060	20.66	66.82
Gov_Def	594	-2.591	3.592	-32.10	6.900
HICP	621	2.875	3.661	-1.700	45.70
Wealth	598	0.740	0.0729	0.577	0.993
OPEN	594	119.8	63.18	45.42	388.1
Number of groups	22	22	22	22	22

Source 2: Own processing in Stata based on data from World bank, Eurostat and IMF

The panel regression results in the following Table 2 reveal several important relationships between fiscal policy, macroeconomic variables, and income inequality. In the first specification (1) we find statistically significant effects for indirect taxes, corporate income taxes, unemployment, and trade openness. The positive coefficient on indirect taxes (VAT), significant at the 10% level, is consistent with the view that increases in indirect taxation can raise income inequality because the burden falls relatively more on low-income households (Muinelo-Gallo & Roca-Sagalés, 2012). This significance disappears once time effects are included. By contrast, corporate income taxation shows a strong and robust negative effect on the Gini index, suggesting that higher corporate taxes reduce inequality by redistributing resources away from capital owners, which is consistent with findings by Heshmati and Kim (2014). Fiscal balance also appears significant with a negative coefficient means that the higher value (a smaller deficit or a surplus), the lower income inequality, while deepening deficits increase inequality. This outcome is in line with theories emphasizing fiscal discipline, which argue that persistent deficits can create distortions and limit fiscal space, ultimately placing a disproportionate burden on lower-income groups (Benos, 2009). Inflation

measured as annual average rate of change has a negative and significant effect on income inequality, indicating that moderate inflation is associated with lower levels of the Gini coefficient. This aligns with Monnin (2014), who found that at low inflation levels, rising prices can narrow income gaps through indexed social transfers, wage adjustments, and a decline in the real value of financial assets held by high-income households. Unemployment is found to significantly increase inequality, confirming the view that higher joblessness reduces earnings at the lower end of the income distribution and amplifies disparities (Kappela & Janku, 2014). Trade openness is associated with lower inequality, which reflects the equalizing effects of EU market integration and regional structural support. Variable aggregate government expenditure do not show a statistically significant effect, suggesting that the structure of spending rather than its overall level is more relevant for inequality outcomes. Switching to Driscoll–Kraay standard errors in columns (3) and (4) chiefly widens the standard errors as expected under common EU shocks while leaving signs and magnitudes essentially unchanged, thereby confirming the robustness of the results.

Table 2: Baseline Panel Regression Results with Fixed and Time Effects

	(1)	(2)	(3)	(4)
VARIABLES	FE	FE_TE	FE_TE	FE_TE
VAT	0.516**	0.359	0.102	0.359
	(0.240)	(0.242)	(0.165)	(0.273)
PIT	0.101	0.141	-0.0783	0.141*
	(0.221)	(0.226)	(0.162)	(0.0751)
CIT	-1.530**	-1.787**	-1.813***	-1.787***
	(0.550)	(0.656)	(0.574)	(0.551)
Gov_Def	-0.121	-0.160**	-0.0347	-0.160**
	(0.0827)	(0.0698)	(0.0277)	(0.0587)
Gov_exp	-0.135	-0.125		-0.125*
	(0.0824)	(0.0787)		(0.0675)
HICP	-0.122*	-0.139**	-0.0959***	-0.139***
	(0.0634)	(0.0591)	(0.0148)	(0.0171)
UNRATE	0.162**	0.152*	0.103**	0.152***
	(0.0627)	(0.0729)	(0.0383)	(0.0332)
OPEN	-0.0233**	-0.0356**	-0.0282***	-0.0356***
	(0.00893)	(0.0126)	(0.00868)	(0.00766)
Constant	34.81***	36.95***	34.32***	36.95***
	(3.106)	(3.257)	(1.143)	(2.176)
Observations	415	415	453	415
R-squared	0.222	0.276		
Number of id	21	21		
Number of groups			23	21

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source 3: Own processing in Stata based on data from World bank, Eurostat and IMF

Table 3 represents an extended specification, highlighting that not all fiscal categories affect inequality in the same way. The results suggest that corporate taxation, customs duties,

government spending on housing assitance programs for low-income households and family-related transfers are the most powerful instruments for lowering inequality. Interestingly, education spending appears with a positive and significant effect, which can be interpreted as evidence that public resources devoted to education in the EU often benefits middle and higher income groups, especially through tertiary education subsidies, and therefore may widen disparities rather than reduce them (Jianu, 2020). Another interesting and unexpected result is the strong negative effect of import duties. In theory, tariffs make basic goods more expensive and therefore tend to hurt lower-income households the most. However, when we focus on the specific characteristics of European economies and examine the descriptive statistics, we observe a high standard deviation. This likely reflects substantial cross-country variation in the composition of imported goods and in the corresponding tariff levels. The divergence may thus stem from differences in import structures and the tariffs applied in individual EU member states. Such heterogeneity can help explain why the estimated effect of import duties differs across the sample. The negative regress coefficient of HICP on the Gini index can be partly explained by the institutional setting of the Eurozone, where most countries in the sample operate under a common monetary policy. Because the ECB focuses on price stability, this framework may smooth the impact of inflation on income inequality, thereby weakening the standard channels through which rising prices typically increase inequality. Greater trade openness is associated with lower inequality, which supports the argument that economic development and integration within the European single market have inclusive effects (Barro, 2003). Higher unemployment consistently contributes to rising inequality, which is consistent with the literature. By contrast, categories such as spending on healthcare or activities that promote economic growth and development do not show significant effects, suggesting that their redistributive potential depends more on country-specific policy design than on aggregate expenditure levels. Government expenditures on unemployment benefits show a positive and significant association with income inequality. Although these transfers are typically expected to reduce inequality, this pattern can be partly explained by the design of unemployment-insurance systems in many EU countries, where benefit levels are tied to previous earnings and therefore rise with the average wage. As a result, more generous earnings-related schemes may mechanically increase measured inequality rather than dampen it. Moreover, the relatively short duration of unemployment benefits limits their redistributive impact, particularly for long-term unemployed workers, who often receive only minimal support.

Taken together, the findings showed in table 3 indicate that inequality is most effectively reduced through well-targeted fiscal measures rather than through broad spending increases. Government expenditure categories such as economic affairs or general public services do not display a clear or consistent relationship with income inequality. This supports the argument that wide, sector-level spending is dispersed across many recipients and therefore fails to generate a strong, targeted redistributive effect. In contrast, targeted social expenditures such as family support, housing assistance, and health show inequality-reducing effect, as they are directed toward clearly identifiable beneficiaries. These findings suggest that the redistributive role of the state is most effective when support is delivered through specific, well-defined programmes rather than through general sectoral funding. In other words, case-specific, individualized transfers appear substantially more effective in reducing income inequality than broad, non-targeted spending measures.

Table 3: Extended Panel Regression Results (Driscoll–Kraay)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES							
VAT	0.122	0.136	0.0337	0.0133	0.0772	0.146	0.168
	(0.148)	(0.147)	(0.150)	(0.148)	(0.150)	(0.157)	(0.163)
PIT	-0.0102	-0.0116	-0.0697	-0.0623	-0.0568	-0.0600	-0.0901
	(0.154)	(0.155)	(0.155)	(0.152)	(0.163)	(0.160)	(0.168)
CIT	-1.699***			-1.645***	-1.670***	-1.744***	-1.792***
	(0.548)			(0.566)	(0.557)	(0.551)	(0.558)
Gen_pub_srv	-0.0377	-0.0355	-0.0781	-0.0683	-0.0625	-0.0645	-0.119
	(0.163)	(0.163)	(0.140)	(0.136)	(0.143)	(0.130)	(0.146)
Eco_affairs	0.0446	0.0447	0.0188	0.0231	0.0314	0.0317	0.0295
	(0.0407)	(0.0414)	(0.0385)	(0.0362)	(0.0411)	(0.0414)	(0.0408)
Soc_protection	-0.116	-0.109					
	(0.0994)	(0.0996)					
Defence	-0.452	-0.461	-0.744	-0.740	-0.639	-0.582	-0.726
	(0.815)	(0.811)	(0.744)	(0.744)	(0.868)	(0.836)	(0.849)
HICP	-0.0908***	-0.0903***	-0.0834***	-0.0818***	-0.0921***	-0.101***	-0.101***
	(0.0213)	(0.0208)	(0.0168)	(0.0172)	(0.0238)	(0.0264)	(0.0265)
UNRATE	0.113*	0.108*	0.0575	0.0526	0.0475	0.0419	0.0243
	(0.0566)	(0.0556)	(0.0390)	(0.0427)	(0.0423)	(0.0419)	(0.0446)
OPEN	-0.0279***	-0.0286***	-0.0236**	-0.0234**	-0.0226**	-0.0215**	-0.0220**
	(0.00981)	(0.0100)	(0.0101)	(0.00945)	(0.00862)	(0.00822)	(0.00849)
Duties_IMP		-1.837***	-1.824***				
		(0.605)	(0.596)				
Educ			0.766***	0.898***	0.915***	0.975***	0.969***
			(0.185)	(0.239)	(0.266)	(0.266)	(0.264)
Health				-0.177	-0.127	-0.0601	-0.0711
				(0.211)	(0.262)	(0.240)	(0.232)
Family					-0.490	-0.635*	-0.787**
					(0.396)	(0.341)	(0.302)
Housing						-3.098***	-3.185***
						(0.779)	(0.790)
Unemp							0.594*
							(0.291)
Constant	35.99***	35.89***	32.24***	32.46***	31.53***	31.31***	31.98***
	(2.202)	(2.123)	(1.841)	(2.037)	(2.391)	(2.079)	(2.243)
Observations	435	435	435	435	429	429	429
Number of groups	22	22	22	22	22	22	22

Source 3: Own processing in Stata based on data from World bank, Eurostat and IMF.

The Driscoll–Kraay specification in Table 4 confirms earlier findings while addressing potential for cross-sectional dependence. In the main specification, lagged variables for education and health expenditures are included, since the distributive effects of government expenditures on education and health generally appear with a delay and are more visible in the subsequent year. Including lagged variables as a robustness check for education and health expenditures did not materially alter the results which supports the reliability of the results. Corporate income taxation is still highly significant and negative. Spending on housing assistance programs is also strongly negative and significant. Among macroeconomic controls, inflation and trade openness are both negatively associated with inequality. Overall,

the results suggest that progressive taxation and well-targeted social spending, particularly in family support and housing assistance, may play an important role in mitigating income inequality. However, their effectiveness appears to depend on the structure and specificity of these measures across EU countries.

Table 4: Final Specification with Driscoll-Kraay Standard Errors and Lagged Variables

		Drisc/Kraay					
Gini	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]	Sig
VAT	0.175	0.150	1.160	0.258	-0.138	0.488	
PIT	-0.073	0.170	-0.430	0.674	-0.427	0.282	
CIT	-1.872	0.598	-3.130	0.005	-3.116	-0.629	***
lag2Educ	0.439	0.233	1.880	0.074	-0.046	0.924	*
lag2Health	0.035	0.211	0.170	0.870	-0.405	0.475	
Family	-0.674	0.289	-2.340	0.029	-1.274	-0.074	**
Housing	-2.927	0.935	-3.130	0.005	-4.871	-0.983	***
Unemp	0.524	0.219	2.390	0.026	0.069	0.980	**
HICP	-0.118	0.035	-3.390	0.003	-0.190	-0.046	***
UNEMP	0.052	0.038	1.390	0.178	-0.026	0.131	
OPEN	-0.027	0.008	-3.330	0.003	-0.044	-0.010	***
_cons	32.565	1.915	17.010	0.000	28.583	36.548	

Source 4: Own processing in Stata based on data from World bank, Eurostat and IMF

4 Discussion

The results indicate that fiscal policy can partly explain observed variation in income inequality within the EU, particularly through targeted spending categories. Corporate income taxation may contribute to reducing inequality, as it redistributes part of the tax burden from capital holders to the wider population. This is broadly in line with literature suggesting that direct taxation plays an important role in equalisation processes in advanced economies (Heshmati & Kim, 2014). Housing expenditure and family benefits show a meaningful negative relationship with inequality, consistent with Malla and Pathranarakul (2022) and Amores et al. (2025), who show that targeted transfers can protect vulnerable households also during crises. By contrast, education spending is positively associated with inequality, reflecting a regressive bias of subsidies that often benefit middle- and higher-income households (Jianu, 2020). Similarly, unemployment benefits show a positive relationship with inequality, consistent with Combes et al. (2024), who highlight unintended side effects of fiscal policy. Moreover, unemployment benefits are generally linked to average wages, which differ considerably across the European countries in our sample. Import duties show a negative association with inequality, which contrasts with theoretical expectations. This result likely reflects substantial cross-country heterogeneity in import structures and tariff levels within the EU. The negative link between HICP and inequality likely stems from the Eurozone's monetary setting, where price-stability policies mitigate inflation's typical distributional effects. Our results also indicate that greater trade openness reduces inequality, whereas higher unemployment is associated with wider income gaps (Kappel & Janku, 2014).

Conclusion

Overall, the analysis shows that inequality in the EU is most effectively reduced through progressive taxation and well-targeted social spending, with corporate taxation, housing programs, and family benefits emerging as the most powerful tools. Conversely, education

expenditure and unemployment benefits may unintentionally widen inequality if poorly designed, highlighting the importance of policy targeting. The findings also suggest that institutional differences across EU member states play a substantial role. Countries that demonstrate clear progress in reducing inequality could serve as benchmarks for others, particularly regarding how they structure and deliver targeted support, both in terms of eligibility and generosity. Such cross-country heterogeneity reflects the broader challenge of moving toward a more coherent fiscal union, as the scale and form of assistance differ markedly across member states, together with substantial variation in social and health contribution systems that shape the impact of personal income taxation. The recent increase in global tariffs and trade tensions could pose a risk for the EU, as higher import duties may raise consumer prices, disrupt supply chains, and weaken the inequality-reducing effects identified in this study. Future research should examine longer-term dynamics and institutional differences, as policy impacts evolve over time and vary across countries.

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INCOME AND WEALTH INEQUALITY AS A SOURCE OF HOUSEHOLD INVESTMENT DECISIONS IN THE EUROPEAN UNION

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Abstract: The paper examines how income and wealth inequality shape the investment opportunities and portfolio choices of households across European Union countries. The paper combines a theoretical literature review with descriptive evidence on income and wealth inequality with fixed-effects panel regressions for EU countries. The findings indicate that wealth inequality is typically more persistent and more pronounced than income inequality, while the determinants of the two dimensions are only partly overlapping. Income inequality is more closely linked to earnings, unemployment, household debt, and social benefits, whereas wealth inequality is more strongly associated with homeownership, household indebtedness, and the broader conditions of access to asset markets. The paper shows that household investment decisions cannot be explained solely by current disposable income, but must be interpreted within a broader distributional and institutional context. Implications: The results are relevant for research on housing, financial vulnerability, and the distributional effects of macroeconomic policy in the EU.
Keywords: income inequality, wealth inequality, household investment decisions, European Union
JEL: D31, D63, G51

Introduction

Household investment behaviour occupies an important place in current economic research because it links individual portfolio choices to aggregate outcomes such as economic growth, financial resilience, and the reproduction of inequality. In the European Union, this relationship is especially complex. Although EU countries share a broad institutional framework, they differ substantially in wages, wealth distribution, housing regimes, financial development, and access to credit. These differences imply that households do not enter investment markets under equal conditions. Their ability to save, accumulate assets, diversify portfolios, and protect wealth against macroeconomic shocks depends not only on individual preferences, but also on their location within broader income and wealth structures (Brandolini & Smeeding, 2012).

This paper examines income and wealth inequality as underlying conditions of household investment decisions in EU countries. It starts from the premise that the distribution of economic resources is not only a social outcome, but also a key determinant of households' access to investment opportunities. While income inequality shapes the capacity to generate savings, wealth inequality more directly determines the stock of assets, collateral, and financial security that enable households to participate in real and financial asset markets. From this perspective, inequality is not external to investment behaviour; it is one of its central structural determinants.

To address this issue, the paper combines a theoretical and empirical literature review with descriptive evidence on inequality trends in the EU and fixed-effects panel regressions estimating selected determinants of income and wealth inequality. The contribution of the paper lies in integrating distributive analysis with the study of household investment behaviour

and in highlighting that unequal access to income and assets creates unequal starting positions in the investment process. In this way, the paper offers a broader framework for understanding how inequality shapes household financial behaviour in the heterogeneous environment of the European Union.

1 Income and Wealth Inequality as a Source of Investment Decisions

Income inequality refers to differences in the flow of resources that households receive over a given period, whereas wealth inequality captures differences in accumulated stocks of assets. A useful analytical distinction is that between primary income, such as wages and property income, and secondary income, such as transfers, benefits, and pensions (Cagetti & De Nardi, 2008). This distinction matters because different sources of income respond differently to macroeconomic shocks, which in turn affects households' scope for saving and investing.

Wealth represents a broader category than income. It includes savings, financial investments, housing, and other assets that can serve as a reserve, collateral, or long-term investment vehicle. Whereas income determines a household's ability to finance current consumption, wealth shapes the ability to absorb shocks and build a long-run portfolio. Wealth inequality is generally much higher than income inequality because it reflects the cumulative effects of higher earnings, inherited advantages, and capital gains (Piketty, 2014). In this sense, income inequality often becomes a primary source of wealth concentration, because higher incomes increase the capacity to save, invest, and compound returns over time (Piketty & Saez, 2003).

Although advanced economies usually display lower levels of income inequality than developing economies, neither income nor wealth disparities can be considered negligible in rich countries. Their magnitude and persistence depend on a broad set of economic, social, and institutional factors. The literature therefore treats inequality not as the product of a single isolated cause but as the outcome of several mutually reinforcing determinants.

Income and wealth inequality are therefore best understood as outcomes of several mutually reinforcing determinants rather than as products of a single isolated cause. Income inequality is closely connected with wealth inequality, because when income is concentrated in the hands of a relatively small share of the population, these households are able to accumulate assets more rapidly and participate more intensively in investment markets. Wealth inequality can thus be interpreted as a natural continuation of income inequality rather than as a completely separate phenomenon (Alfani, 2024; Benton & Keister, 2017). From the perspective of household investment decisions, the level and stability of income largely determine which social groups possess the liquidity, collateral, and risk-bearing capacity necessary for entering the investment process. At the same time, intergenerational transfers substantially affect households' starting positions by improving their ability to enter asset markets, finance housing, or build financial buffers (Fessler & Schürz, 2015). In the EU context, this mechanism is especially relevant when rising asset prices increase the advantage of households that receive capital or housing through intergenerational transmission. Cross-country differences in private wealth are likewise shaped by income, inheritance, and the institutional role of the welfare state (Atkinson & Morelli, 2014).

Redistribution also matters. The distributional consequences of taxation differ substantially across income groups, while progressive taxation remains one of the main instruments used by advanced economies to moderate disparities in market outcomes (Coady et al., 2019). More broadly, redistribution is not necessarily inconsistent with long-run growth and may instead strengthen social cohesion and economic resilience (Ostry et al., 2014). Tax systems therefore influence disposable income, the ability to build savings, and the relative attractiveness of different forms of investment (Dabla-Norris et al., 2015). Education

and human capital operate through a similar channel. Educational attainment supports long-run wealth accumulation, is associated with higher income and better labour-market mobility in advanced economies, and indirectly improves portfolio diversification through stronger financial literacy (Cwynar, 2021). Demographic structure and the life cycle further shape both income and wealth distribution, since households close to retirement often reach the highest level of accumulated assets, while regional differences within countries continue to influence job opportunities, housing prices, and access to financial instruments (Keister & Moller, 2000).

Inflation is another key determinant because it erodes the real value of nominal savings and fixed-income assets. Price-level changes redistribute nominal wealth across the euro area, and the adverse effects of inflation tend to be particularly strong for households with lower incomes and limited buffers (Klaus & Junyi, 2015). This channel is highly relevant for investment behaviour because better-off households are usually more able to reallocate resources into assets that provide inflation protection, whereas lower-income households are more exposed to losses in real purchasing power. Social policy, by contrast, acts as a stabilizing and redistributive mechanism. Although economic growth can improve the position of poorer groups, the extent of this improvement depends on the surrounding institutional framework, as well as on the quality of transfers and social expenditure directed toward vulnerable households (Dollar & Kraay, 2002). The scale and quality of social protection therefore indirectly influence households' investment possibilities by affecting financial stability, precautionary saving, and resilience to shocks. Finally, inequality is shaped by broader institutional and political stability. More stable political and economic environments create more predictable conditions for employment, income formation, and wealth accumulation, while long-run institutional quality affects not only the level of inequality but also the willingness of households to plan, save, invest, and take risk over longer horizons (World Economic Forum, 2014).

2 Methods

2.1 Measuring income and wealth inequality

The Gini coefficient is the most widely used summary indicator of inequality in the literature. It is considered a methodologically well-established tool for international comparison because it condenses the degree of dispersion in income or wealth into a single measure (De Maio, 2007). Its main advantage lies in the ability to summarize the overall distribution rather than comparing only selected groups. For the purposes of this study, the Gini coefficient is suitable because it captures the distributional environment in which households make investment decisions (Jenkins & Van Kerm, 2011).

The Gini coefficient is derived directly from the Lorenz curve as the ratio between the area enclosed by the line of perfect equality and the Lorenz curve and the total area under the line of perfect equality. The coefficient ranges between 0 and 1, or alternatively between 0 and 100 when expressed in percentages. Lower values indicate a more even distribution of income or wealth, while higher values indicate stronger concentration of resources. For household investment research, this is important because unequal distributions imply unequal ability to save, participate in financial markets, invest in housing, and diversify across assets.

2.2 Regression models

We use longitudinal (panel) data for selected European countries covering the years 2010, 2014, 2017, and 2021, corresponding to waves one through four of the Household Finance and Consumption Survey (HFCS). This survey provides harmonized and internationally comparable household balance sheet and income data across the European Union. The dependent variable is Gini Index. To capture the main explanatory determinants, we rely on international statistical databases including the ECB, Eurostat and IMF. The dataset

is consolidated to ensure that explanatory variables match the temporal availability of the dependent variables. All data processing and estimation are conducted in Stata. Given the longitudinal structure, we estimate panel regression models with Fixed-effects as determined by Hausman test. Both Fixed-effects and Random-effects estimators are applied, with the Hausman test used to determine the preferred specification.
The specific equations of our panel regressions for Income Inequality can be found below:

1) $Gini\ Index_{it} = \emptyset_i + \beta_1 \ln_Earning_{it} + \beta_2 \text{Household Debt}_{it} + \varepsilon_{it}$
2) $Gini\ Index_{it} = \emptyset_i + \beta_1 \ln_Earning_{it} + \beta_2 \text{Household Debt}_{it} + \beta_3 lnGDP_PPP_{it} + \beta_4 Unemployment_{it} + \varepsilon_{it}$
3) $Gini\ Index_{it} = \emptyset_i + \beta_1 \ln_Earning_{it} + \beta_2 \text{Household Debt}_{it} + \beta_3 lnGDP_PPP_{it} + \beta_4 Unemployment_{it} + \beta_5 Tertiary_{it} + \beta_6 Elderly_{it} + \varepsilon_{it}$
4) $Gini\ Index_{it} = \emptyset_i + \beta_1 \ln_Earning_{it} + \beta_2 \text{Household Debt}_{it} + \beta_3 lnGDP_PPP_{it} + \beta_4 Unemployment_{it} + \beta_5 Tertiary_{it} + \beta_6 Elderly_{it} + \beta_7 Social\ Benefits_{it} + \varepsilon_{it}$
5) $Gini\ Index_{it} = \emptyset_i + \beta_1 \ln_Earning_{it} + \beta_2 \text{Household Debt}_{it} + \beta_3 lnGDP_PPP_{it}\ \beta_4 Unemployment_{it} + \beta_5 Tertiary_{it} + \beta_6 Elderly_{it} + \beta_7 Social\ Benefits_{it} + \beta_8 Pos\ Soc\ Countries_{it} + \varepsilon_{it}$

And specific equations of our panel regressions for Wealth Inequality can be found below:

1) $Gini\ Index_{it} = \emptyset_i + \beta_1 Home\ Ownership_{it} + \varepsilon_{it}$
2) $Gini\ Index_{it} = \emptyset_i + \beta_1 Home\ Ownership_{it} + \beta_2 lnGDP\ PPP_{it} + \beta_3 Household\ Debt_{it} + \beta_4 lnEarnings_{it} + \varepsilon_{it}$
3) $Gini\ Index_{it} = \emptyset_i + \beta_1 Home\ Ownership_{it} + \beta_2 lnGDP\ PPP_{it} + \beta_3 Household\ Debt_{it} + \beta_4 lnEarnings_{it} + \beta_5 Interest\ rate_{it} + \varepsilon_{it}$
4) $Gini\ Index_{it} = \emptyset_i + \beta_1 Home\ Ownership_{it} + \beta_2 lnGDP\ PPP_{it} + \beta_3 Household\ Debt_{it} + \beta_4 lnEarnings_{it} + \beta_5 Interest\ rate_{it} + \beta_6 Tertiary + \beta_7 Elderly_{it} + \beta_8 Pos\ Soc\ Countries + \varepsilon_{it}$
5) $Gini\ Index_{it} = \emptyset_i + \beta_1 Home\ Ownership_{it} + \beta_2 lnGDP\ PPP_{it} + \beta_3 Household\ Debt_{it} + \beta_4 lnEarnings_{it} + \beta_5 Interest\ rate_{it} + \beta_6 Tertiary + \beta_7 Elderly_{it} + \beta_8 Pos\ Soc\ Countries + \beta_9 Tax_{it} + \varepsilon_{it}$

This approach of cross-country panel regression allows us to situate main determinants of income and wealth inequality within broader European patterns while providing fundamental depth o national dynamics for investment choices.

3 Empirical Evidence on Income and Wealth Inequality in the European Union

Cross-country evidence indicates that inequality in the European Union evolves in a markedly uneven manner. Income inequality, measured by the Gini index, generally fluctuates within a narrower range and tends to change more gradually over time, whereas wealth inequality is substantially higher in level terms and exhibits much stronger variation across countries. This distinction is analytically important because household investment decisions are often constrained less by current income alone than by access to accumulated assets, collateral, and overall balance-sheet resilience. In practice, households with similar current incomes may face very different investment opportunities if their asset positions differ substantially. This broader pattern is consistent with survey-based evidence on household

balance sheets across the euro area, which shows that the composition of household wealth differs significantly across countries and social groups (ECB, 2023).

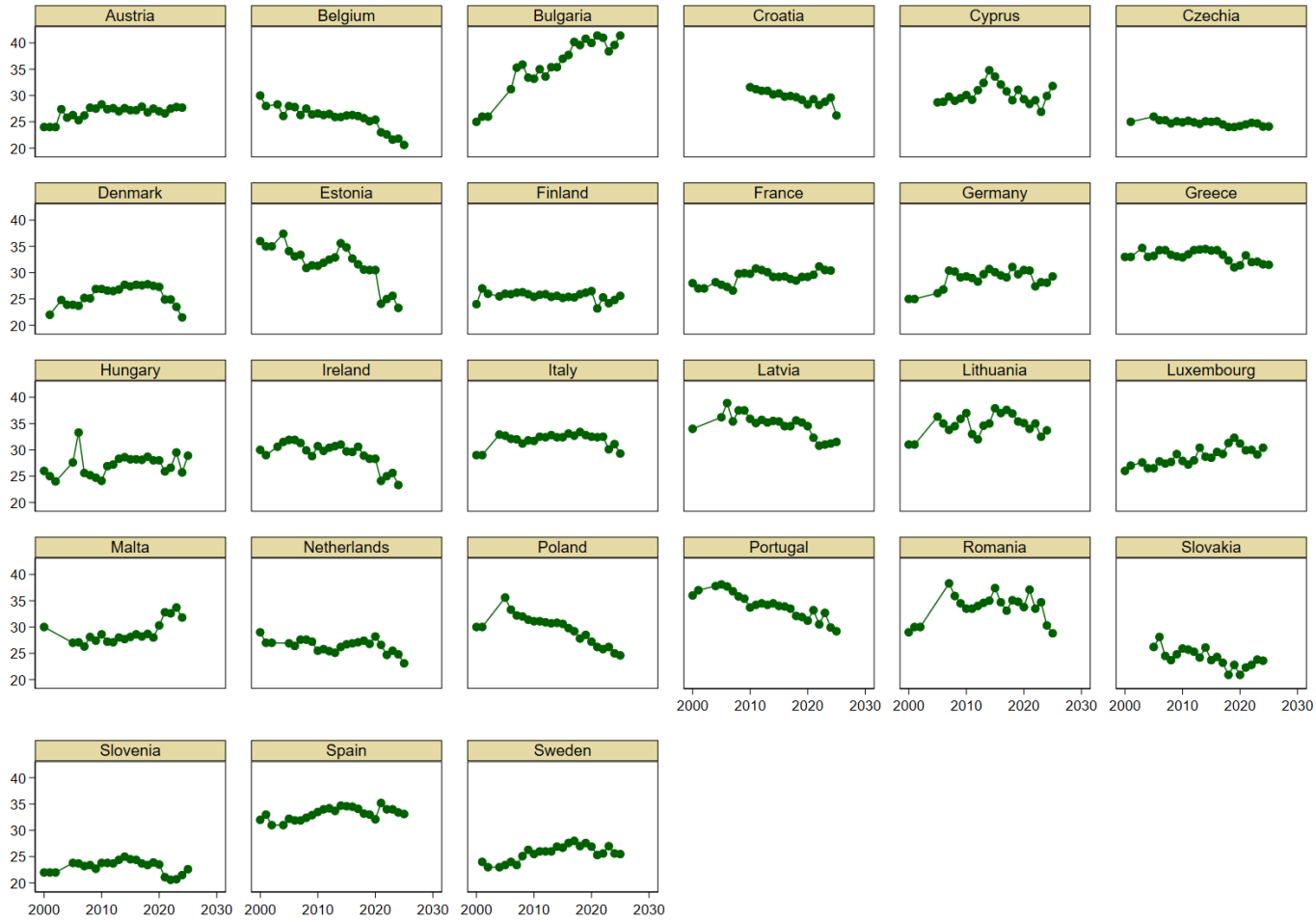
The development of income inequality further suggests that some EU countries experienced relative stabilization or a mild decline over the observed period, whereas others maintained elevated levels or even recorded increases. Higher values of income inequality are more visible in parts of Southern and Eastern Europe, while several Northern and Central European countries display lower and more stable values. This pattern implies that redistributive capacity, labour-market structures, wage formation, and social policy remain central to the dynamics of disposable-income inequality. It also indicates that households do not enter the saving and investment process from comparable starting points, since differences in labour-market outcomes and transfer systems directly affect their ability to generate precautionary savings and participate in financial markets (Eggum & Røed Larsen, 2023).

An even sharper divergence emerges in the case of wealth inequality. In most countries, the wealth Gini is substantially higher than the income Gini, and these differences remain sizeable even within the shorter period covered by the HFCS waves. Wealth inequality tends to change more slowly because it reflects long-run accumulation, inheritance, differences in housing ownership, and unequal access to financial and real assets. In several countries, relatively moderate income inequality coexists with high wealth inequality, suggesting that public policy may smooth current incomes more effectively than it equalizes asset ownership. From the perspective of investment behaviour, this is a crucial finding, because ownership of assets determines not only the capacity to preserve wealth, but also the ability to benefit from capital gains, leverage, and portfolio diversification. The importance of housing and balance-sheet composition for cross-country wealth inequality is also emphasized in recent European evidence (Lindner, 2015).

From the standpoint of household investment decisions, these findings indicate that households with comparable disposable income may nevertheless face substantially unequal investment opportunities. Those that already own housing or financial assets enter the investment process from a structurally stronger position than households without accumulated wealth. Asset ownership provides households not only with a reserve of value, but also with collateral, greater resilience to adverse shocks, and a stronger ability to tolerate risk and temporary valuation losses. Conversely, households lacking an asset base are more often constrained by immediate consumption needs, limited liquidity, and weaker access to financial and real asset markets.

This distinction is particularly relevant in the European Union, where cross-country differences in housing regimes, credit conditions, and financial development amplify unequal starting positions. Household investment behaviour should therefore be interpreted not only as a reflection of preferences, expectations, or financial literacy, but also as the outcome of wider distributional structures and institutional settings. Inequality thus shapes both the scale of household participation in investment activity and the range of instruments through which households are able to preserve and increase wealth over time.

Figure 1: Income Inequality in the EU (2000-2025)



Source: Own calculations based in Stata

Figure 1 illustrates that income inequality across EU countries follows different trajectories over time, reflecting differences in labour-market outcomes, redistributive policies, and broader macroeconomic conditions. However, the distribution of current income alone does not fully capture households' economic position. Figure 2 therefore broadens the analysis by turning to wealth inequality, which reflects the long-term accumulation of assets, inheritance, housing ownership, and access to financial instruments. This distinction is crucial for the present study, because household investment decisions depend not only on current disposable income, but also on whether households already possess an asset base from which further investment becomes possible.

In this sense, wealth inequality represents a more structural dimension of household stratification. Whereas income inequality captures disparities in current economic flows, wealth inequality reflects unequal control over stocks of accumulated resources that can be used to generate future returns. The comparison between the two figures thus helps to clarify why households may occupy similar positions in the income distribution while facing very different opportunities in savings behaviour, portfolio diversification, and participation in asset markets.

Figure 2: Wealth Inequality in the EU (2010-2021)

Source: Own calculations in Stata

The descriptive perspective can be extended by fixed-effects panel models, which make it possible to control for unobserved country-specific heterogeneity and to identify the main correlates of inequality within EU countries over time. Table 1 reports the determinants of income inequality. The results point to a relatively consistent role of labour-market conditions, household indebtedness, and redistributive mechanisms. In the baseline specifications, higher earnings are associated with lower income inequality, suggesting that improvements in labour income may contribute to a broader compression of disposable-income differences. However, this effect becomes statistically insignificant in the more extended specifications, which may indicate that part of the effect of earnings is mediated by other labour-market and social-policy variables included later in the model.

By contrast, household debt remains positive and highly significant in all model variants, making it the most robust determinant in the income-inequality regressions. This result suggests that rising household indebtedness is not merely a neutral financial development indicator, but may also reflect growing asymmetries in access to credit and uneven exposure to financial vulnerability across households. Unemployment is likewise positively associated with income inequality and becomes stronger in the richer specifications, which is consistent with the view that labour-market exclusion disproportionately affects lower-income groups. Social benefits, in turn, display a negative and statistically significant coefficient, confirming their redistributive and stabilizing role within EU welfare systems. It is also noteworthy that some variables do not appear as robust determinants of income inequality. GDP per capita, tertiary education, and the share of the elderly population do not reach statistical significance in the fully specified models. This does not necessarily imply that they are economically

irrelevant, but rather that their effects may be indirect, country-specific, or already absorbed by the fixed-effects structure.

Table 1: Fixed-Effects Panel Regression of the Determinants of the Income Inequality in EU Countries

	(1)	(2)	(3)	(4)	(5)
ln_Earnings	-1.27***	-1.44**	-1.91***	-0.54	-0.46
	(0.27)	(0.58)	(0.68)	(0.75)	(0.76)
Household Debt	0.04***	0.04***	0.04***	0.05***	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
lnGDP_PPP		0.96	1.31	-1.81	-1.74
		(1.24)	(1.23)	(1.42)	(1.42)
Unemployment		0.06*	0.07**	0.09***	0.09***
		(0.03)	(0.03)	(0.03)	(0.03)
Tertiary			-0.03	-0.02	-0.02
			(0.03)	(0.023)	(0.03)
Elderly			0.04	0.11	0.11
			(0.08)	(0.08)	(0.08)
Social Benefits				-0.25***	-0.24***
				(0.06)	(0.06)
*PosSoc Countries					-2.25
					(1.37)
Constant	39.63***	31.18***	32.19***	53.68***	52.31***
	(2.58)	(8.44)	(9.39)	(10.56)	(10.76)
Observations	584	584	543	543	543
R^2	0.207	0.252	0.294	0.321	0.338

Note: Robust standard errors are reported in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.* PosSoc countries were added from a random-effects model for inclusion in the analysis; in the remaining cases, the estimates come from fixed-effects models and do not affect the overall conclusions. *Source: HFCS 2010-2021, ECB, IMF, and World Bank; author's calculations in Stata.*

Wealth inequality in Table 2 yields a somewhat different picture, one that is even more closely aligned with the broader theme of household investment behaviour. The strongest and most robust result concerns homeownership, which is negatively and significantly related to the wealth Gini in all specifications. This finding suggests that broader ownership of primary housing is associated with a less concentrated distribution of wealth, likely because owner-occupied housing constitutes the main asset for a large share of households. In this sense, homeownership may act as a partial equalizing mechanism at the aggregate level, at least where access to ownership is sufficiently broad.

At the same time, household debt is positively associated with wealth inequality across all relevant specifications. This result indicates that debt may play a dual role in the wealth-accumulation process. On the one hand, access to credit may enable households to purchase housing and enter asset markets. On the other hand, when wealth acquisition becomes increasingly debt-dependent, the benefits of asset ownership may become concentrated among households that already possess stronger balance sheets and better financing conditions. The role of interest rates becomes positive and statistically significant in the extended models, indicating that tighter monetary conditions may also have distributional implications for wealth. Higher interest rates increase borrowing costs, affect asset valuations, and may reduce the ability of more financially constrained households to acquire or maintain assets. By contrast, some other variables, including the share of the elderly population, the post-socialist dummy, and tax, do not emerge as robust predictors in the full specifications. GDP per capita is negative

and significant in some models, but its effect weakens once additional controls are introduced, suggesting that the relationship between general economic development and wealth concentration is not straightforward.

Wealth inequality is more closely linked to asset ownership structures and financing conditions than to current income flows alone as expected from literature. This distinction is highly relevant for the argument of the paper. Whereas income inequality primarily shapes households' short-term saving capacity, wealth inequality reflects deeper differences in asset ownership, collateral, and access to investment opportunities. The regression results therefore reinforce the idea that household investment decisions in the EU are conditioned not only by current earnings, but also by whether households already possess housing, wealth, or access to credit under sustainable conditions.

Table 2: Fixed-Effects Panel Regression of the Determinants of the Wealth Inequality in EU Countries

	(1)	(2)	(3)	(4)	(5)
Home Ownership	-0.33***	-0.38***	-0.4***	-0.38***	-0.35***
	(0.08)	(0.08)	(0.08)	(0.08)	(0.09)
lnGDP PPP		-3.57**	-3.7**	-4.06*	-4.76
		(1.6)	(1.72)	(2.45)	(3.02)
Household Debt		0.09***	0.09***	0.08***	0.06**
		(0.02)	(0.02)	(0.03)	(0.03)
ln_Earnings		0.17**	0.21**	0.17	0.11
		(0.08)	(0.1)	(0.11)	(0.12)
Interest rate			0.42	1.39**	1.18*
			(0.41)	(0.62)	(0.61)
Tertiary				0.17	0.23*
				(0.11)	(0.13)
Elderly				0.43	0.42
				(0.29)	(0.30)
*PosSoc Countries				-0.68	-3.31
				(3.23)	(3.49)
Tax					-0.63
					(0.58)
Constant	88.59***	123.69***	124.75***	112.64***	120.09***
	(5.14)	(20.15)	(21.56)	(29.19)	(34.64)
Observations	78	72	69	69	61
R^2	0.014	0.193	0.223	0.281	0.224

Note: Robust standard errors are reported in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.* PosSoc countries were added from a random-effects model for inclusion in the analysis; in the remaining cases, the estimates come from fixed-effects models and do not affect the overall conclusions. *Source: HFCS 2010-2021, ECB, IMF, and World Bank; author's calculations in Stata.*

A comparison of Table 1 and Table 2 further shows that the determinants of income inequality and wealth inequality do not overlap symmetrically. Income inequality appears to be more sensitive to labour-market conditions and social redistribution, whereas wealth inequality is more strongly tied to homeownership, indebtedness, and financing conditions. This difference is central to the broader argument of the paper, because it confirms that household investment decisions cannot be understood solely through the lens of current disposable income. They are equally, and in some cases more strongly, shaped by the distribution of accumulated assets and by the institutional channels through which households gain access to housing and financial markets.

Conclusion

This paper has examined income and wealth inequality as underlying conditions of household investment decisions in European Union countries. It has argued that inequality should be understood not only as a distributive outcome, but also as a structural determinant of households' ability to save, accumulate assets, diversify portfolios, and participate in financial and real asset markets.

The paper has shown that income and wealth inequality capture distinct dimensions of household economic position. While income inequality is more directly linked to the capacity to generate savings, wealth inequality reflects deeper differences in asset ownership, collateral, and financial security. The empirical results further indicate that these two dimensions are associated with partly different mechanisms: income inequality is more closely related to labour-market conditions, household debt, and social redistribution, whereas wealth inequality is more strongly associated with homeownership, indebtedness, and financing conditions.

The main contribution of the paper lies in integrating income and wealth inequality determinants as a foundation for household investment behaviour in the heterogeneous environment of the European Union. The findings suggest that household investment decisions should be interpreted not solely as the outcome of individual preferences, but also as the result of unequal starting positions in income, wealth, and access to assets. A limitation of the paper is that the empirical analysis relies on aggregate country-level indicators, which cannot fully capture within-country heterogenity in household asset ownership, portfolio composition, and investment behaviour.

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ECONOMIC EFFICIENCY OF WATER-USE IN EUROPEAN UNION COUNTRIES: A DESCRIPTIVE ANALYSIS OF SELECTED INDICATORS [1]

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Abstract: Water is a strategic natural resource with significant environmental and economic importance. In the context of increasing pressure on water resources caused by climate change, urbanization and growing demand for water, the issue of efficient water management is becoming increasingly important. The aim of the paper is to analyse the differences in the economic efficiency of water use between European Union countries and assess them in relation to the availability of renewable resources per capita. The analysis is based on descriptive statistics of selected indicators for the period 2020–2022. The results point to significant differentiation between EU countries and indicate that the availability of water resources may not be a clear determinant of the efficiency of their use.
Keywords: water resources management, water use efficiency, renewable water resources, European Union, descriptive statistics, sustainability
JEL: Q20, Q25

Introduction

One of the most important natural resources that affects ecosystem health and economic growth is water. It is a crucial component of many economic sectors, and economic decisions increasingly take its availability and use into account. Water is now seen as both an environmental issue and an important component of the economy's resilience and economic efficiency.

Urbanization, climate change, and rising water demand are the main causes of the increasing strain on water resources. These elements make effective and sustainable water management even more crucial. There is room for comparative analysis because the availability and use of water resources vary greatly throughout the European Union.

The aim of the paper is to examine how the economic efficiency of water use varies among EU member states and evaluate these variations in relation to the per capita availability of renewable resources. The article's goal is to add to the conversation about how the demands of sustainable water resource management can be connected to the economic aspect of water use efficiency.

1 Economic and environmental aspects of water resource use

Water is a key natural resource that plays a significant role in both the economy and environmental processes. It is an essential input for several sectors of the economy and at the same time performs important ecological functions in the country. For this reason, its management is the subject of not only environmental but also economic policy. Water thus acts

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as natural capital, a factor of production and a subject of public regulation (UNESCO, 2024; OECD 2023).

Climate change, increasing water demand, declining water resource quality, and an increase in the frequency of extreme hydrological events underscore the significance of effective water management. Due to their effects on productivity, costs, and economic stability, these factors have an impact on both the environment and the economy (EEA, 2024; World Bank, 2016).

In the context of the Sustainable Development Goals, water efficiency is also becoming increasingly important. SDG indicator 6.4.1 monitors changes in water use efficiency over time and makes it possible to evaluate how much economic growth is attained without placing an undue burden on water resources. Therefore, water use efficiency is a crucial instrument for evaluating economies' capacity to generate value through the prudent use of a finite natural resource (FAO & UN-Water, 2024).

In the European Union, this issue is also relevant due to the differences between Member States in the natural availability of water resources, the structure of the economy and the intensity of water use. Although some countries have a relatively high volume of renewable water resources per capita, others face greater pressure on their rational use. A comparison of EU countries is therefore a suitable starting point for assessing the relationship between the availability of water resources and the efficiency of their use (Directive 2000/60/EC; OECD, 2023).

2 Theoretical foundations

2.1 Water as a factor of economic development and environmental stability

Water has a specific position in the economy, as it enters production processes as an irreplaceable resource and at the same time forms the basis for the functioning of ecological systems. Water management can be understood as a complex system in which natural conditions, infrastructure, water demand, allocation rules and public policies come together. Water is therefore not only a production factor, but also part of a broader system, the functioning of which affects both economic performance and environmental quality (Dinar & Tsur, 2021). Additionally, water resources support biodiversity, control hydrological processes, maintain environmental quality, and provide ecosystem services, among other ecological functions. Therefore, water must be viewed as both a natural capital and an economic resource from a sustainability standpoint, since its degradation may have long-term economic repercussions (Gebeyehu, 2025).

2.2 Economic efficiency of water use

Economic efficiency of water use expresses the ability to create economic value when using water resources in such a way that the pressure on them is as low as possible or at least rationally manageable. In a broader sense, it is about finding a balance between economic performance and resource intensity. Water thus becomes a significant factor in productivity and long-term resilience of the economy.

The structure of the national economy must be considered when evaluating the effectiveness of water use. Economies focused on agriculture or water-intensive industries may perform differently than those with a greater proportion of services or technologically demanding sectors. Water efficiency must therefore be understood considering larger economic and resource contexts rather than in a vacuum (Dinar & Tsur, 2021).

2.3 Sustainable water resources management in the European context

Water resources management today cannot be understood only as the technical management of water infrastructure or ensuring sufficient water for individual sectors.

It is a broader process of coordinating economic, environmental and institutional decisions, the aim of which is to achieve long-term sustainability. In the European area, this issue is particularly relevant, as climate stress, regional differences in water availability and different economic structures increase the demands on the quality of water policy. The economic efficiency of water use is therefore not only the result of the natural availability of resources, but also a consequence of the quality of management, planning and the ability to integrate water into broader development policies (Biswas, 2008; Santos, 2025).

The indicates that the economic efficiency of water use is a significant aspect of quality water management, but it is not the only one. Its analysis must be connected to institutional conditions, environmental constraints, and the availability of water resources.

3 Methodology

The aim of the analytical part is to compare the countries of the European Union in terms of economic efficiency of water use and availability of renewable water resources per capita. The analysis is based on two selected indicators – efficiency of water-use and total renewable water resources per capita. The first indicator represents the economic dimension of water use; the second indicator represents the resource framework of the study.

The study focuses on the countries of the European Union. The selection of this group of countries is justified by the fact that they all operate in a common political and regulatory space, but there are significant differences in natural conditions, economic structure, and the level of pressure on water resources. This combination of a common framework and internal heterogeneity creates an appropriate environment for comparative analysis.

The article's data is based on internationally comparable indicators processed for individual countries. When processing the data, average values from 2020 to 2022 were used to eliminate short-term fluctuations and capture a more stable picture of individual countries' positions. Data on the availability of renewable water resources were obtained from the FAO AQUASTAT database (FAO, 2024).

From a methodological point of view, the article is based on descriptive statistics. The basic statistical characteristics were used in the data processing, namely the arithmetic mean, median, minimum, maximum and standard deviation. The analysis also includes ranking countries according to the values of individual indicators and identifying extreme values. Since the article is descriptive in nature, the aim is not to point out causal relationships, but to identify basic differences, extremes and possible tendencies within the studied set of countries.

4 Analysis results

4.1 Descriptive characteristics of selected indicators

Table 1 provides an overview of the basic statistical characteristics of the analysed indicators.

Table 1: Descriptive statistics of the analysed indicators for EU countries

	Mean	**Median**	**Minimum**	**Maximum**	**Standard deviation**
Water Use Efficiency (USD/m^3)	146,75	90,94	9,47	1 315,43	246,63

Total Renewable Water Resources (m^3/per capita)	7 757,35	6 475,75	96,45	26 855,47	6 817,51

Source: own processing based on FAO and AQUASTAT databases

The results show that the values of both indicators vary significantly across European Union countries. In the case of water use efficiency, there is significant variability, indicating that economies have different abilities to create value when using water resources. Similarly, the indicator of renewable water resources per capita varies significantly, indicating different natural and demographic conditions.

4.2 Comparison of countries according to water-use efficiency

The countries with the highest and lowest water use efficiency values are presented in Table 2.

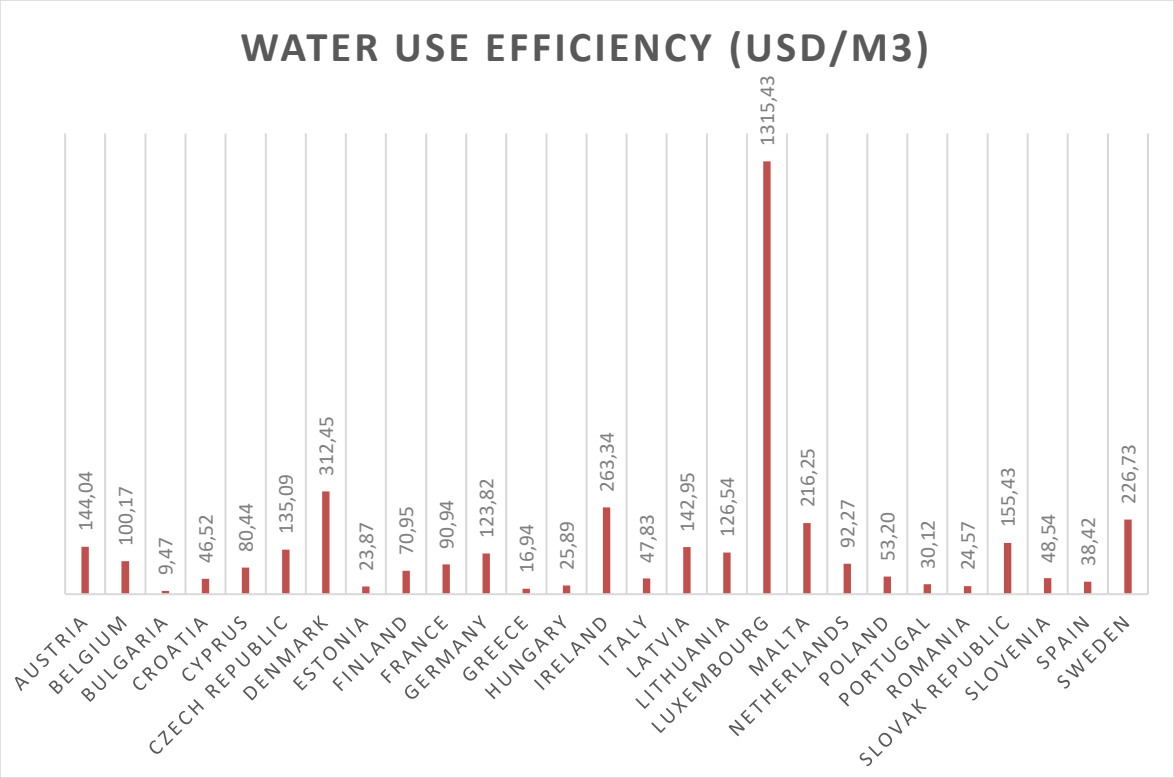
Table 2: EU countries with the highest and lowest water use efficiency values

The highest values	**Water Use Efficiency (USD/m^3)**	**The lowest values**	**Water Use Efficiency (USD/m^3)**
Luxembourg	1 245,43	Bulgaria	9,47
Denmark	312,45	Greece	16,94
Ireland	263,34	Estonia	23,87
Sweden	226,73	Romania	24,57
Malta	216,25	Hungary	25,89

Source: own processing based on FAO and AQUASTAT databases

When comparing countries according to water efficiency, significant differences can be identified between Member States. The countries with the highest scores achieve significantly higher levels of economic efficiency compared to the countries at the bottom of the ranking. This difference highlights the importance of economic structure, technological level and the quality of water resource management.

Figure 1: Average water-use efficiency in EU countries for 2020 – 2022



Source: own processing based on FAO and AQUASTAT databases

4.3 Comparison of countries according to the availability of renewable water resources per capita

The countries with the highest and lowest valuesof renewable water resource availability per capita are shown in Table 3.

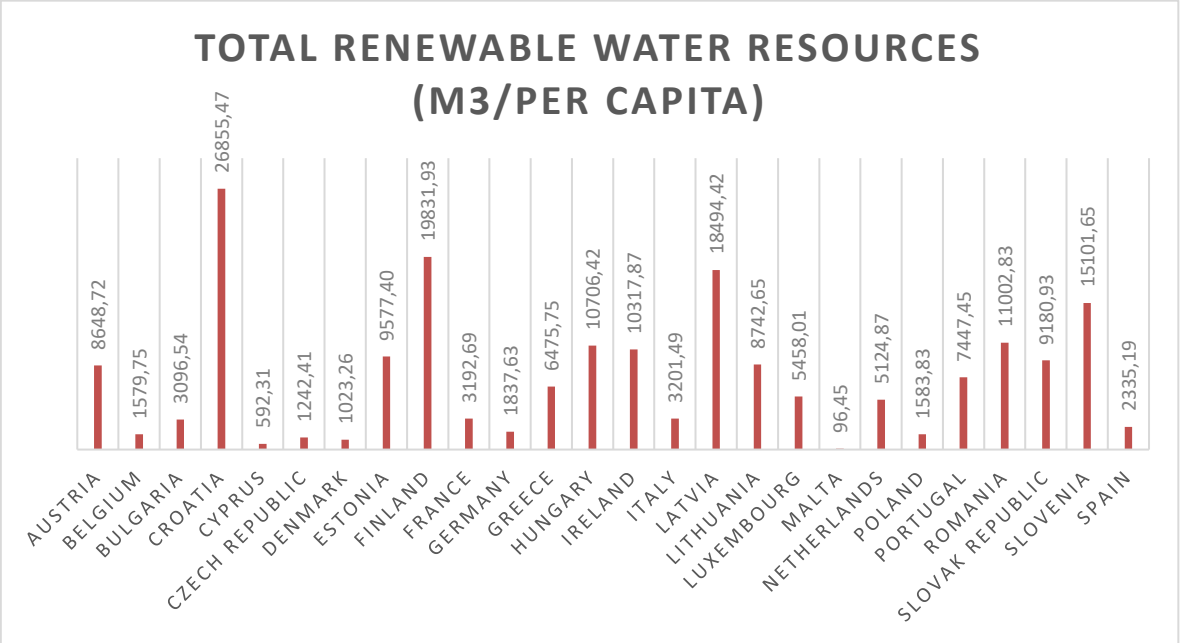
Table 3: EU countries with the highest and lowest values of renewable water resources per capita

The highest values	Total Renewable Water Resources (m^3/per capita)	The lowest values	Total Renewable Water Resources (m^3/per capita)
Croatia	26 855,47	Malta	96,45
Finland	19 831,93	Cyprus	592,31
Latvia	18 494,42	Denmark	1 023,26
Sweden	16 700,64	Czech Republic	1 242,41
Romania	11 002,83	Belgium	1 579,75

Source: own processing based on FAO and AQUASTAT databases

Similar differences can be observed in the availability of renewable water resources per capita. This indicator mainly reflects the natural and demographic conditions of individual countries. Countries with higher water availability have more favourable conditions, while countries with lower values face greater pressure for efficient water management.

Figure 2: Average total renewable water resources per capita in EU countries for 2020 – 2022



Source: own processing based on FAO and AQUASTAT databases

4.4 Comparison of indicators

A comparison of both indicators suggests that there is no simple and unambiguous relationship between the availability of water resources and the efficiency of their use. In some cases, it can be observed that countries with lower water availability achieve higher efficiency of its use, which may be the result of greater pressure for rational water management.

At the same time, however, it is true that the efficiency of water use is also influenced by other factors, particularly the structure of the economy, the technological level, pricing and regulatory mechanisms, and the quality of the institutional environment.

5 Discussion

The results of the descriptive analysis confirmed that the countries of the European Union differ significantly in the economic efficiency of water use and in the availability of renewable water resources per capita. This differentiation reflects a combination of natural, economic and institutional factors.

The results also show that higher availability of water resources does not automatically lead to higher efficiency of their use. In some cases, the opposite trend can be observed, when countries with lower water availability achieve relatively higher efficiency of its use. This phenomenon can be interpreted as the limitation of resources creating pressure for more rational water management.

However, the results cannot be understood as evidence of direct causality. The efficiency of water use is influenced by a wider set of factors, including the sectoral structure of the economy, the level of technological development, the nature of agriculture, the setting of water policy and the quality of the institutional environment.

The fact that the analysis is based on only two indicators and is descriptive in nature can be considered a limit of the contribution. Nevertheless, it provides a clear basis for further research, which could complement correlation analysis, sectoral comparison, or extend the comparison beyond the European Union.

Conclusion

The aim of the paper was to analyse the differences in the economic efficiency of water use between the countries of the European Union and to assess them in relation to the availability of renewable water resources per capita. Based on descriptive statistics and a comparison of selected indicators, it can be stated that there are significant differences between the EU countries in both indicators examined.

The analysis indicated that higher availability of renewable water resources does not automatically mean higher economic efficiency of their use. The efficiency of water management therefore depends not only on natural conditions, but also on economic, technological and institutional factors.

The paper confirms that water represents a significant economic and environmental factor of development. Its efficient use is an important part of sustainable management of water resources, especially in conditions of growing environmental risks and increasing pressure on natural resources.

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THE STRAIT OF HORMUZ AND GLOBAL CRUDE OIL PRICES: MARKET RESPONSES TO IRAN-RELATED GEOPOLITICAL SHOCKS (2023–2026)[1]

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Abstract: The Strait of Hormuz is the world's most concentrated maritime energy corridor, with around one fifth of global petroleum liquids consumption transiting the chokepoint annually. This paper examines how Iran-related geopolitical shocks between 2023 and 2026 have been transmitted into international crude oil prices, with particular focus on the Strait as the transmission channel. The methodology combines descriptive chokepoint analysis with an event-based review of Brent crude price movements, drawing on agency data and geopolitical-risk literature. The results show that Brent has displayed sharp and seemingly asymmetric reactions, culminating in the 2026 Strait of Hormuz crisis during which the benchmark rose from around USD 70 to a reported peak of approximately USD 126 per barrel. The paper concludes that the geopolitical risk premium embedded in oil prices remains structurally elevated and that European Union member states, including Slovakia, remain materially exposed to chokepoint disruption despite ongoing diversification efforts.

Keywords: Strait of Hormuz, geopolitical risk, Iran, oil price volatility
JEL: Q43, F51, Q34

Introduction

Energy markets remain a central transmission belt between geopolitical events and macroeconomic outcomes. Despite progress in the energy transition, crude oil continues to be the dominant commodity in international trade and a key input into transport, industrial production and electricity generation in much of the world. The price of oil therefore acts as a near-real-time barometer of perceived geopolitical risk (Caldara & Iacoviello, 2022; European Central Bank [ECB], 2023), and the Strait of Hormuz – the narrow maritime passage between the Persian Gulf and the Gulf of Oman – is the single most important point at which this risk is concentrated. Approximately twenty per cent of global petroleum liquids consumption and a comparable share of global liquefied natural gas (LNG) trade transit this chokepoint each year (U.S. Energy Information Administration [EIA], 2025; International Energy Agency [IEA], 2026a).

Iran occupies a uniquely sensitive position in this geography. Its territorial waters border the Strait, its Islamic Revolutionary Guard Corps Navy patrols the passage, and its capacity – credible or implied – to disrupt traffic has long acted as a latent risk priced into international oil markets. The collapse of the Joint Comprehensive Plan of Action in 2018, recurrent tanker incidents in 2019, the direct exchanges of fire between Iran and Israel in 2024, the twelve-day Israel–Iran war of June 2025 and, most recently, the major escalation that began with the joint U.S.–Israeli strikes of 28 February 2026 have all illustrated how rapidly latent risk can translate into realised supply disruption. By March 2026, Brent crude was reported to have crossed USD

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100 per barrel for the first time in four years and to have peaked at approximately USD 126 per barrel, an episode the IEA's Executive Director has described as the worst global energy security challenge in history, exceeding the disruptions of 1973 and 1979 combined (Coates Ulrichsen & Krane, 2026; IEA, 2026a).

The objective of this paper is to examine how Iran-related geopolitical shocks have been transmitted into global crude oil prices over the period 2023–2026, with particular focus on the Strait of Hormuz as the structural mechanism that links political events in the region to global price formation. Three research questions guide the analysis. First, what are the structural features of the Strait of Hormuz that make it irreplaceable as an oil chokepoint? Second, how have major Iran-linked incidents over the past three years been reflected in Brent crude prices? Third, what are the implications of these findings for European – and specifically Slovak – energy security in the contemporary environment?

Methodologically, the paper combines a descriptive analysis of chokepoint volumes, country composition and bypass capacity with an event-based examination of Brent crude price movements around major Iran-related dates. The conceptual framework draws on the geopolitical risk literature that emerged from the contributions of Kilian (2009) and Caldara and Iacoviello (2022) and on subsequent work on the transmission of geopolitical shocks to commodity markets (Kilian, Plante & Richter, 2024; Pinchetti, 2024; Verduzco-Bustos & Zanetti, 2026; Jiao et al., 2023; Zaghdoudi, 2026). Quantitative material is drawn primarily from the EIA, the IEA, the Congressional Research Service, Eurostat and academic policy research. The analysis remains deliberately descriptive: no formal econometric identification is attempted, in line with the level of analysis common in comparable proceedings of this conference (Dančo, 2025).

The paper proceeds in four sections after this introduction. Section 1 sets out the structural features of the Strait of Hormuz. Section 2 reviews Iran's strategic position and the history of tensions affecting the Strait. Section 3 presents an event-based examination of Brent crude price movements between October 2023 and May 2026. Section 4 discusses the implications for European energy security with a particular focus on the Slovak Republic. The conclusion summarises the findings, acknowledges the limitations of a descriptive design and suggests directions for further research.

1 The Strait of Hormuz as a global oil chokepoint

The Strait of Hormuz is a narrow seaway separating the Persian Gulf from the Gulf of Oman and the Arabian Sea. At its narrowest navigable point the passage is approximately 21 nautical miles wide, with shipping organised into two-mile-wide lanes in each direction separated by a buffer zone (EIA, 2025). The passage lies within the territorial waters of Iran and Oman, and international vessels exercise their right of transit passage under the United Nations Convention on the Law of the Sea, although Iran has not ratified the Convention and the interpretation of the relevant provisions has at various points been contested (Shepard & Pratson, 2020).

In 2024, oil flows through the Strait averaged approximately 20 million barrels per day, comprising both crude oil and petroleum products (EIA, 2025). This represented roughly 27 per cent of global maritime oil trade and about 20 per cent of world petroleum liquids consumption. According to the IEA, in 2025 nearly 15 million barrels per day of crude oil – approximately 34 per cent of global crude oil trade – passed through the Strait, with the majority of those exports destined for Asian markets, in particular China, India, Japan and the Republic of Korea (IEA, 2026a).

The country composition of these flows is uneven, as summarised in Table 1. Saudi Arabia is by a considerable margin the largest user of the corridor, accounting for roughly 38 per cent of crude and condensate flows in 2024 (EIA, 2025). Saudi Arabia and the United Arab

Emirates are the only Gulf producers with material non-Hormuz export options: the Saudi East–West crude oil pipeline links Abqaiq to the Red Sea port of Yanbu with a nominal capacity of around 5 million barrels per day, while the Abu Dhabi Crude Oil Pipeline allows the UAE to direct some volumes to the Fujairah terminal outside the Strait. Combined available bypass capacity is estimated at approximately 2.6 million barrels per day under disruption conditions, which represents only a modest fraction of total throughput (EIA, 2025; Coates Ulrichsen & Krane, 2026). Other Gulf producers – Iraq, Kuwait, Qatar and Bahrain – have no comparable alternative seaborne routes (Coates Ulrichsen & Krane, 2026). Iran itself developed the Jask oil terminal and the Goreh–Jask pipeline on the Gulf of Oman with the explicit objective of bypassing the Strait, but after a test load in late 2024 no further export shipments have been recorded and the terminal is not currently considered a viable export route for Iranian crude (IEA, 2026a).

Table 1: Gulf producer dependence on the Strait of Hormuz, 2024

Country	Approx. flow through Hormuz	Share of own exports via Hormuz	Material bypass route
Saudi Arabia	~5.5 mb/d (~38% of total flows)	Partial	East–West pipeline to Yanbu (~5 mb/d capacity)
Iraq	~3.4 mb/d	Near-total	Kirkuk–Ceyhan pipeline limited and intermittent
United Arab Emirates	~2.7 mb/d	Partial	Habshan–Fujairah pipeline (~1.5 mb/d)
Kuwait	~2.0 mb/d	Total	None
Iran	~1.3 mb/d (sanctioned)	Near-total	Goreh–Jask pipeline not operational
Qatar	Limited crude; ~9.3 bcf/d LNG	Total	None
Bahrain	Small	Total	None

Note: Author's compilation. Source: EIA (2025); IEA (2026a); Coates Ulrichsen and Krane (2026).

The Strait is also a major LNG corridor. In 2024, about 20 per cent of global LNG trade transited Hormuz, predominantly from Qatar and to a lesser extent the UAE (EIA, 2025). Qatari exports through the passage averaged some 9.3 billion cubic feet per day. The economies of Bangladesh, India and Pakistan together imported close to two thirds of their LNG via this route in 2025, and gas-fired generation supplies a substantial share of electricity in several of these markets (IEA, 2026a). The combined oil and LNG concentration is unique: no other maritime chokepoint carries a comparable share of two distinct hydrocarbon trades simultaneously, and substitution options are constrained both by physical geography and by refinery configurations optimised for the specific sulphur and density profile of Gulf crude grades (Shepard & Pratson, 2020; Coates Ulrichsen & Krane, 2026).

The implication for global price formation is straightforward. Because most volumes transiting the Strait have no alternative seaborne route, any meaningful disruption to traffic translates rapidly into a global supply shortfall. The IEA has therefore long characterised the corridor as the principal physical vulnerability in the global oil system and has identified a sustained disruption as capable of triggering price increases sufficient to require demand

destruction in order to balance the market (IEA, 2026a). This structural feature is consistent with the empirical finding that geopolitical risk has a disproportionate impact on oil prices when it is concentrated in producing regions that depend on a single physical export route (Verduzco-Bustos & Zanetti, 2026).

2 Iran's strategic position and the geopolitics of the Strait

Iran's relationship with the Strait of Hormuz is simultaneously economic, military and symbolic. Economically, Iran is itself a significant exporter of crude oil and condensate through the passage, although the volume of those exports has fluctuated substantially in response to successive iterations of the United States sanctions regime that has been in force since 2018, as well as to European Union restrictive measures that include an import ban on Iranian crude oil and natural gas (Council of the European Union, 2025; Congressional Research Service, 2026). Militarily, the Iranian Revolutionary Guard Corps Navy (IRGCN) was assigned, in a 2007 reorganisation, sole responsibility for naval operations in the Persian Gulf, and shares responsibility for the Strait itself with the conventional Iranian Navy (IRIN); both forces operate bases on or near the Strait (Congressional Research Service, 2026). Symbolically, the ability to threaten closure of the passage has long been regarded in the strategic-studies literature as one of Iran's principal asymmetric levers in disputes with the United States and the Arab Gulf states.

The history of incidents affecting traffic through the Strait predates the present cycle by several decades. During the Iran–Iraq war of the 1980s the so-called Tanker War demonstrated that even partial disruption could materially affect global oil markets (Coates Ulrichsen & Krane, 2026). Tensions reappeared in periods of acute U.S.–Iran friction – for example, after the U.S. withdrawal from the Joint Comprehensive Plan of Action in 2018 and the reimposition of sanctions on Iranian petroleum exports under Executive Order 13846, and during the tanker incidents of 2019, which included attacks on commercial vessels in and around the Strait and the seizure of a British-flagged tanker (Shepard & Pratson, 2020; Congressional Research Service, 2026). The U.S. Department of the Treasury subsequently designated several senior IRGC commanders in 2019 in connection with what it described as destabilising naval actions in and around the Strait of Hormuz (Congressional Research Service, 2026).

The post-October 2023 period marks a clear acceleration in this trajectory. The Hamas attack on Israel on 7 October 2023 and the subsequent military operations in Gaza set in motion a regional dynamic that drew several armed groups in the wider region – including Hezbollah in Lebanon, the Houthi movement in Yemen and various armed groups in Iraq and Syria – into hostilities with Israel and the United States. The Houthi attacks on commercial shipping in the Red Sea and the Bab al-Mandeb Strait from late 2023 onwards forced a significant rerouting of seaborne trade around the Cape of Good Hope and indirectly increased the importance of the Strait of Hormuz as the principal alternative Gulf export route (EIA, 2025; Coates Ulrichsen & Krane, 2026). In April and October 2024, Iran undertook direct missile and drone strikes against Israeli territory, marking a transition from indirect confrontation to overt state-on-state engagement.

The escalation culminated in two distinct episodes of direct conflict. The first was the twelve-day Israel–Iran war of June 2025, in which Israeli air strikes targeted Iranian nuclear and energy infrastructure and Iranian forces responded with missile and drone salvos. Although the Strait remained open during this episode, Brent crude rose materially in the immediate aftermath of the first strikes, from approximately USD 69 to USD 74 per barrel between 12 and 13 June (EIA, 2025). The second and far more severe episode began on 28 February 2026, when joint U.S. and Israeli air strikes against Iranian security entities – conducted under the operational name Operation Epic Fury – reportedly killed several senior Iranian officials, and Iranian forces responded with missile and drone attacks on Israel, on U.S. military bases

and on the energy infrastructure of regional states (Coates Ulrichsen & Krane, 2026; Congressional Research Service, 2026).

From that point the IRGCN issued explicit warnings against transit, boarded and attacked merchant vessels and reportedly laid sea mines in the Strait. On 4 March 2026 Iran announced that the Strait was closed and threatened to attack any vessel that attempted to pass, with a subsequent statement on 5 March clarifying that the closure applied to vessels linked to the United States, Israel and their Western partners (Coates Ulrichsen & Krane, 2026; Congressional Research Service, 2026). According to the IEA, flows through the Strait fell from approximately 20 million barrels per day before the war to just over 2 million barrels per day during March, while exports via alternative routes from Saudi Arabia and Fujairah increased from 3.9 to 6.4 million barrels per day on average – a partial offset that left a global supply shortfall of more than 10 million barrels per day (IEA, 2026a). The effective closure of the Strait for an extended period had been treated for decades as a worst-case tail scenario in the energy-security literature (Shepard & Pratson, 2020).

3 Event timeline 2023–2026 and crude oil price reactions

This section presents a descriptive event-based analysis of how Brent crude prices responded to the principal Iran-related shocks of the period under review. The aim is not to estimate causal effects in a formal sense, since the identification problems inherent in such a design are well known (Kilian, 2009; Caldara & Iacoviello, 2022), but rather to document the magnitude and direction of the market reaction and to identify possible asymmetries in the response pattern. The approach is consistent with the high-frequency event-window methodology used in the recent geopolitical-risk literature (Verduzco-Bustos & Zanetti, 2026; Pinchetti, 2024). Table 2 summarises the key events and the associated Brent price response, and Figure 1 displays the price evolution over the full period.

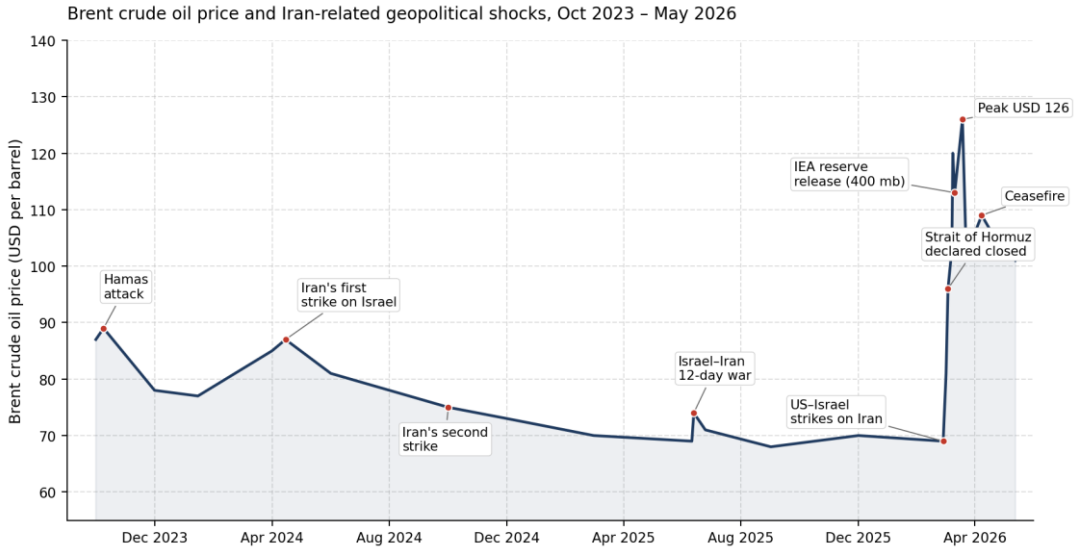
Table 2: Major Iran-related events and Brent crude price response, 2023–2026

Date	Event	Brent crude reaction
7 Oct 2023	Hamas attack on Israel; start of the Gaza war.	Brent rose by approximately 4 per cent over the following trading session.
Late 2023 – 2024	Sustained Houthi attacks on shipping in the Red Sea and Bab al-Mandeb.	Persistent freight-cost and insurance-premium increases; muted spot price effect.
13–14 Apr 2024	Iran's first direct drone and missile strike on Israeli territory.	Short-lived Brent spike; price retracement within days.
1 Oct 2024	Second Iranian large-scale missile strike on Israel.	Renewed but contained price reaction; underlying demand weakness limited gains.
12–13 Jun 2025	Israeli strikes against Iranian nuclear and energy infrastructure; start of the 12-day war.	Brent rose from approximately USD 69 to USD 74 per barrel.
28 Feb 2026	Operation Epic Fury: joint U.S.–Israel strikes on Iranian security entities.	Markets closed on Saturday; large gap-up on first trading session.

Date	Event	Brent crude reaction
2 Mar 2026	Reported strikes on Gulf energy infrastructure, including Qatari gas facilities.	Brent rose approximately 10–13 per cent to around USD 80–82 per barrel.
4–5 Mar 2026	Iran declares the Strait of Hormuz closed; restriction subsequently clarified as applying to U.S., Israeli and Western-linked vessels.	Sharp further upward move; tanker traffic dropped sharply.
8 Mar 2026	Continued disruption to Gulf energy flows; rising fears of prolonged supply outage.	Brent crossed USD 100 per barrel for the first time in four years.
9 Mar 2026	Political transition in Tehran; markets re-open after weekend.	Brent surged near USD 120 per barrel at the open.
11 Mar 2026	IEA member states agree on coordinated release of 400 million barrels – largest in IEA history.	Partial relief rally; Brent volatility remained elevated.
Mid-Mar 2026	Peak supply concern with global supply shortfall reported above 10 mb/d.	Brent peaked at approximately USD 126 per barrel.
Late Mar 2026	Initial signals from the U.S. of willingness to negotiate.	Brent fell from approximately USD 114 to USD 102 per barrel intraday.
8 Apr 2026	Iran–U.S. ceasefire announced.	Initial relief rally; Brent gradually retreats but remains structurally elevated.
May 2026	Continued uncertainty over ceasefire durability and reopening of the Strait.	Brent trades in the USD 98–104 range; materially above pre-conflict levels.

Note: Author's compilation. 2026 entries reflect contemporaneous reporting and are subject to revision. Sources: EIA (2025); IEA (2026a, 2026b); Congressional Research Service (2026); Coates Ulrichsen and Krane (2026).

Figure 1: Brent crude oil price and Iran-related geopolitical shocks, October 2023 – May 2026



Note: Stylised price evolution constructed by the author from reported price markers in the cited sources. The figure is illustrative and is not based on tick-level commercial price data. Source: Author's compilation from EIA (2025), IEA (2026a) and Coates Ulrichsen and Krane (2026).

Several patterns are visible in Table 2 and Figure 1. First, the magnitude of the price reaction has grown over the period under review. The events of 2023 and the first half of 2024 produced relatively muted moves of a few per cent at the daily frequency, partly because the underlying physical supply remained intact and partly because the global demand picture was perceived as soft. The first material reaction came with the June 2025 Israeli strikes on Iranian energy infrastructure, when Brent moved by around 7 per cent in a single session despite the absence of any direct physical disruption to traffic through the Strait (EIA, 2025). The 2026 episode was qualitatively different, as it combined both physical disruption to flows through the Strait and damage to energy infrastructure in producing countries (Coates Ulrichsen & Krane, 2026; IEA, 2026a).

Second, the response pattern appears to be asymmetric in direction. Upward moves in Brent in response to escalation news have generally been larger and faster than the downward moves on de-escalation news. After the mid-March 2026 peak, Brent retraced only partially even in the wake of the IEA reserve release and the ceasefire announcement. As of mid-May 2026, Brent remained materially above its pre-conflict level (on the order of 40 per cent or more, depending on the price marker used) (Coates Ulrichsen & Krane, 2026). Such a pattern is consistent with the well-established finding in the literature that geopolitical risk premia incorporate option-like properties and that market participants are reluctant to fully discount tail risks even after they appear to have receded (Caldara & Iacoviello, 2022; Zaghdoudi, 2026). It is also consistent with the evidence in Verduzco-Bustos and Zanetti (2026) that geopolitical oil price shocks have larger and more persistent macroeconomic effects than oil price shocks driven by demand or general supply factors.

Third, the spillover into related markets has been significant. European natural gas prices, as measured by the Dutch TTF benchmark, nearly doubled in mid-March 2026 against a backdrop of European gas storage levels of approximately 30 per cent following a harsh 2025–2026 winter (IEA, 2026a). War-risk insurance premiums for very large crude carriers transiting the Strait reportedly rose from around 0.25 per cent of insured value before the conflict to between 1 and 1.5 per cent during March 2026, adding several hundred thousand U.S. dollars in cost per voyage for the largest tankers (Coates Ulrichsen & Krane, 2026). These second-order effects amplify the economic impact well beyond the price of crude oil itself, in line with

the volatility-spillover literature on transmission channels of geopolitical risk to commodity markets (Jiao et al., 2023).

Fourth, the supply response has involved both market-based and policy-based components. Saudi Arabia and the United Arab Emirates increased flows through their bypass pipelines from 3.9 to 6.4 million barrels per day on average, although the combined effective capacity did not come close to compensating for the disrupted volumes (IEA, 2026a). On 11 March 2026 the 32 IEA member states unanimously agreed to make 400 million barrels of emergency reserves available to the market – the largest coordinated release in the organisation's history and the sixth such action since the IEA's foundation in 1974 (IEA, 2026b). The IEA's Executive Director nevertheless characterised the release as a partial mitigant rather than a substitute for the reopening of the Strait, noting that the disruption already exceeded the magnitude of the 1973 and 1979 oil crises combined (IEA, 2026b).

4 Implications for European and Slovak energy security

The implications of the 2026 Strait of Hormuz crisis for European energy security must be situated against the broader context of the post-2022 reconfiguration of European energy supply. The outbreak of armed conflict between Russia and Ukraine in 2022 and the subsequent European disengagement from Russian pipeline gas forced European Union member states into a rapid diversification of their gas imports, with a much greater reliance on LNG from the United States, Qatar and other non-Russian suppliers. In parallel, European crude oil imports rebalanced towards Norwegian, North American and Middle Eastern supply. While this diversification has reduced Russian dependence, it has simultaneously increased European exposure to the Middle East as a marginal supplier and to LNG shipments routed through the Strait of Hormuz (Pinchetti, 2024).

The 2026 episode brought this exposure into sharp relief. European TTF gas prices nearly doubled in early March 2026, and the European Commission advised member states to refill gas storage early in order to avoid renewed price spikes later in the year (IEA, 2026a). The interaction between low end-of-winter storage and a sudden disruption of Qatari LNG supply demonstrated that European gas markets remain fundamentally vulnerable to chokepoint-level disruptions even when no direct Russian element is involved. The parallel rise in oil prices fed through directly into European transport fuel prices and industrial input costs at a time when inflation expectations were already sensitive following the post-pandemic adjustment (ECB, 2023; Pinchetti, 2024).

Slovakia presents a particular case within this broader picture. As a landlocked EU member state with a refining sector historically configured around Russian crude grades, Slovakia depends substantially on pipeline supply and has limited short-run optionality. According to Eurostat data, in 2024 Slovakia's energy import dependency was approximately 65 per cent, with petroleum products imported predominantly via pipeline infrastructure from neighbouring states (Eurostat, 2025). The domestic refining sector has gradually adapted its slate towards non-Russian feedstocks, but the broader Slovak economy remains exposed to the international Brent price level and to the cost of refined products imported via neighbouring states. A sustained Brent price increase of the order of magnitude observed in 2026 therefore translates relatively directly into higher fuel prices at the pump, higher industrial energy costs and, indirectly, into consumer price inflation.

Three policy implications can be drawn from the recent experience. First, the value of European participation in coordinated strategic-reserve mechanisms has been confirmed: the unprecedented IEA release of 11 March 2026 played a material role in stabilising the market once the ceasefire was in place (IEA, 2026b). Second, the case for accelerated diversification of supply, including investment in non-Hormuz supply chains and in renewable energy capacity, has been strengthened by the demonstration that chokepoint disruption is no longer

a tail risk but a realised event (Coates Ulrichsen & Krane, 2026). Third, the experience underlines the importance of integrated EU-level coordination on gas storage targets, joint procurement and emergency response, since unilateral national responses to a chokepoint shock would in all likelihood produce inferior outcomes for member states with limited domestic optionality (ECB, 2023).

Conclusion

This paper has examined the relationship between Iran-related geopolitical shocks and global crude oil prices between 2023 and 2026, with particular emphasis on the Strait of Hormuz as the structural channel that links political events in the Persian Gulf to international price formation. Three central findings emerge from the analysis. First, the Strait of Hormuz remains physically and structurally irreplaceable in the global oil and LNG trade, with around one fifth of global petroleum liquids consumption and a comparable share of LNG trade transiting the corridor each year and bypass capacity covering only a small fraction of total flows. Second, the response of Brent crude to Iran-related shocks over the period under review appears to have grown in magnitude and to be asymmetric in pattern, with upward moves in response to escalation typically larger and faster than downward retracements on de-escalation news. The 2026 episode, during which Brent rose from around USD 70 to a reported peak of approximately USD 126 per barrel, represents the most severe oil-supply disruption since at least the 1970s. Third, European – and by extension Slovak – energy security remains materially exposed to chokepoint disruption despite the post-2022 reconfiguration away from Russian pipeline supply.

Several limitations of the design should be acknowledged. The analysis is descriptive rather than causal, and no attempt has been made to disentangle the effect of Iran-related news from contemporaneous developments in demand, inventories or OPEC+ supply decisions. The price data are taken from secondary sources rather than from a primary commercial price database, which limits the precision with which intraday and tick-level reactions can be assessed; Figure 1 should therefore be interpreted as an illustrative rather than a definitive representation. The most acute phase of the 2026 crisis is still very recent at the time of writing, and many of the relevant facts will likely be reassessed in subsequent academic work as more reliable data become available.

Notwithstanding these limitations, the paper contributes a synthesis of finance, energy and geopolitical perspectives on a crisis that has redefined the operational meaning of energy security in Europe. Further research could usefully exploit higher-frequency price data and the geopolitical risk index of Caldara and Iacoviello (2022) to estimate event-window abnormal returns more precisely, examine the cross-asset response (equities, currencies, freight, insurance) in a unified framework following the approach of Jiao et al. (2023), and assess the durability of the post-crisis adjustment in supply chains, in particular the question of whether the increased role of non-Hormuz alternative routes and bypass capacity proves transitory or structural.

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BELT AND ROAD ENGAGEMENT AND UNEVEN GVC INTEGRATION IN EUROPE: EVIDENCE FROM SERBIA, MONTENEGRO AND SLOVAKIA[1]

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Abstract: This paper examines Belt and Road Initiative engagement and selected patterns of global value chain integration in three European economies: Serbia, Montenegro and Slovakia. The aim is to show that countries associated with the BRI do not follow a single path of economic integration. Drawing on descriptive GVC indicators and country-level comparison, the paper identifies visible differences among the three cases. Serbia displays a high level of foreign-input dependence in exports, Montenegro shows a more limited form of productive integration alongside a highly visible infrastructure project, and Slovakia remains primarily embedded in EU-centred production networks. The paper argues that these differences should be considered when assessing the economic implications of BRI engagement in Europe. The findings highlight the importance of country-specific production structures and institutional settings in explaining how BRI engagement relates to global value chain integration in Europe.
Keywords: Belt and Road Initiative, global value chains, European integration, Serbia, Montenegro, Slovakia
JEL: F14, F15, F21

Introduction

The Belt and Road Initiative (BRI) has become an important part of contemporary debates on international economic relations, infrastructure connectivity and development cooperation. In Europe, BRI engagement has taken different forms, ranging from large infrastructure projects and construction contracts to trade relations, investment expectations and diplomatic cooperation. These differences are particularly visible across European economies that are not positioned in the same way within global production networks. For this reason, the economic implications of BRI engagement cannot be assessed only by looking at the existence of cooperation with China or by counting the number of projects. It is also necessary to examine how countries are integrated into global value chains and whether such integration is associated with domestic productive capacity or with dependence on foreign inputs.

A central issue in global value chain research is that participation in international production networks does not automatically imply upgrading. Countries may become more connected to cross-border production systems while remaining dependent on imported intermediate goods, foreign technology or external coordination. The distinction between participation and upgrading is therefore important for analysing the developmental implications of BRI-related engagement. Existing studies on global value chains have shown that the benefits

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of integration depend not only on the volume of trade or investment, but also on the position of countries and firms within production networks and on their capacity to capture domestic value added (Gereffi et al., 2005; Humphrey & Schmitz, 2002).

This paper examines this issue through three European cases: Serbia, Montenegro and Slovakia. These countries are useful for comparison because they represent different forms of engagement with the BRI and different positions within European and global production structures. Serbia has developed relatively extensive cooperation with China in infrastructure and industrial sectors. Montenegro is strongly associated with one highly visible infrastructure project, the Bar–Boljare highway. Slovakia, by contrast, is primarily integrated into EU-centred manufacturing networks, while China-related engagement remains more limited and institutionally constrained. These differences make it possible to observe how BRI engagement is associated with uneven forms of global value chain integration.

The aim of the paper is to identify selected patterns of GVC integration in these three cases and to show that BRI-associated countries in Europe do not follow a single path of economic integration. The analysis uses descriptive GVC indicators, especially foreign value added embodied in exports, together with a country-level comparison based on the existing literature and policy sources. Rather than estimating a general causal effect of BRI engagement, the paper offers a focused comparison of three country profiles and highlights the importance of production structures, fiscal exposure and institutional settings when assessing the economic implications of BRI engagement.

The paper proceeds as follows. The first section briefly introduces the conceptual and methodological background, focusing on the distinction between GVC participation and upgrading. The second section presents the main comparative patterns observed in Serbia, Montenegro and Slovakia. The third section discusses how these patterns point to uneven forms of integration rather than a uniform BRI effect. The conclusion summarises the main findings and outlines their relevance for the study of BRI engagement in Europe.

1 Conceptual and Methodological Background

The economic implications of the Belt and Road Initiative are often discussed through the language of connectivity. From this perspective, infrastructure investment is expected to improve trade links, reduce logistical constraints and support the integration of participating countries into wider production networks. However, integration into cross-border production systems is not a uniform process. Countries differ in their industrial structures, institutional environments, fiscal capacities and positions within regional production networks. For this reason, the presence of BRI-related engagement does not by itself indicate whether a country is moving toward stronger domestic value creation or toward a more dependent form of integration.

For the purpose of this paper, global value chain integration is understood as participation in cross-border production networks through the use, transformation and export of intermediate inputs. A country may be strongly involved in such networks without necessarily moving into higher value-added activities. This distinction is central to the GVC literature. Participation can increase when firms or sectors use more imported inputs in exported goods, but this does not automatically mean that domestic firms have upgraded technologically, functionally or organisationally. Upgrading requires the ability to capture more domestic value, develop capabilities and move into more complex or higher-value functions within the production process (Gereffi et al., 2005; Humphrey & Schmitz, 2002). For this reason, GVC indicators need to be interpreted carefully and should not be treated as direct evidence of development or upgrading (Taglioni & Winkler, 2015).

This distinction is particularly relevant for the analysis of infrastructure-led engagement. Large infrastructure and industrial projects may increase economic activity and strengthen

cross-border links, but they may also rely heavily on imported equipment, foreign contractors and external financing. In such cases, integration may be visible at the level of trade and production flows, while domestic productive embedding remains limited. This problem is especially relevant in parts of Southeast Europe, where Chinese infrastructure finance has often been discussed in relation to state-led contracting, debt exposure and the domestic capacity to transform infrastructure investment into broader productive linkages (Grgić, 2019; Mitrović, 2023).

The empirical discussion draws on descriptive patterns of foreign value added embodied in exports, using backward GVC participation as an indicator of the extent to which exports depend on foreign inputs. The analysis covers the period 2010–2022 and focuses on three European cases: Serbia, Montenegro and Slovakia. These cases are not selected because they represent the largest recipients of Chinese investment in Europe, but because they illustrate different positions within BRI-related economic engagement and global value chain integration. Serbia represents a case of very high foreign-input dependence in exports and relatively extensive BRI-related cooperation with China (Mitrović, 2023; Zakić et al., 2024). Montenegro illustrates limited productive integration combined with a highly visible infrastructure project, especially the Bar–Boljare highway (Grgić, 2019; Kovačević, 2021). Slovakia represents a country whose production structure is mainly embedded in EU-centred manufacturing networks, particularly through automotive and export-oriented industrial activities (Kelemen et al., 2020; Pavlínek, 2016).

The paper combines this descriptive GVC evidence with a country-level reading of the three cases. The aim is not to estimate a general causal effect of BRI engagement on GVC participation. Rather, the analysis uses the three cases to show how different economic and institutional contexts are associated with different forms of integration. This approach allows the comparison to remain empirically grounded while keeping the argument focused on selected patterns of BRI engagement and GVC integration in Europe.

2 Uneven Patterns of GVC Integration in Serbia, Montenegro and Slovakia

The three selected cases show that BRI engagement in Europe is associated with different forms of global value chain integration. These differences are visible both in descriptive GVC indicators and in the broader economic context of each country. Serbia, Montenegro and Slovakia do not represent a single regional pattern. Instead, they illustrate three different positions: high foreign-input dependence, limited productive embedding linked to a major infrastructure project, and integration primarily structured through EU-centred manufacturing networks.

Table 1 summarises the main quantitative and qualitative differences among the three countries. The values are based on backward GVC participation, understood as the share of foreign value added embodied in exports. The table is not intended to rank the countries in terms of performance. Rather, it provides a descriptive basis for identifying different forms of GVC integration.

Table 1: Selected GVC Integration Profiles of Serbia, Montenegro and Slovakia

Country	Median BP	Export-weighted BP	Main pattern	Interpretation
Serbia	100.00	100.00	High foreign-input dependence	Deep but import-dependent GVC participation
Montenegro	23.02	16.08	Limited productive integration	Infrastructure visibility without strong productive embedding
Slovakia	32.02	31.38	EU-centred industrial integration	Stable integration within European production networks

Note: Author's calculation based on EORA MRIO data, 2010–2022.

Serbia represents the most extreme pattern among the three cases. Its backward participation remains at a very high level, indicating that exports are strongly dependent on foreign value added. This does not necessarily mean that Serbia has achieved stronger domestic upgrading. Instead, it suggests a form of integration in which exported production relies heavily on imported intermediate inputs. This pattern is consistent with the broader argument in GVC research that high participation may coexist with limited domestic value capture (Gereffi et al., 2005; Taglioni & Winkler, 2015). In the Serbian case, this quantitative pattern is also connected to the structure of BRI-related cooperation. China's engagement has been visible in infrastructure, energy, transport and industrial sectors, often through state-to-state arrangements and large-scale projects (Mitrović, 2023; Zakić et al., 2024). These projects may strengthen economic connectivity, but they do not automatically create broad domestic supplier networks or higher-value functions.

Montenegro shows a different pattern. Its level of backward participation is much lower than Serbia's and points to a more limited form of productive integration. However, Montenegro's BRI engagement became politically and economically visible through the Bar–Boljare highway project. The project was significant not because it transformed Montenegro's position in global production networks, but because it concentrated financial and political attention around a single infrastructure investment. Existing studies have emphasised the fiscal and political implications of this project, especially in relation to external borrowing, debt exposure and the limited capacity of a small economy to absorb large infrastructure commitments (Grgić, 2019; IMF, 2018; Kovačević, 2021). From the perspective of GVC integration, Montenegro therefore illustrates a situation in which infrastructure visibility is stronger than productive embedding.

Slovakia represents a third pattern. Unlike Serbia and Montenegro, Slovakia's integration into global value chains is mainly shaped by its position within European manufacturing networks. Its backward participation is moderate and relatively stable, reflecting a production structure connected to EU-centred industrial activity, especially automotive and export-oriented manufacturing. In this case, China-related engagement does not play the same structural role as in the Western Balkan cases. Slovakia's economy is already embedded in European value chains, and external investment is shaped by EU regulatory frameworks, competition rules and broader institutional constraints. Existing research on Slovakia's industrial development and Chinese economic engagement suggests that China has remained a relatively limited actor in comparison with the country's EU-centred production system (Kelemen et al., 2020; Pavlínek, 2016).

Taken together, these three cases suggest that BRI engagement should not be interpreted as producing one uniform pattern of integration in Europe. Serbia shows deep but highly foreign-input-dependent participation. Montenegro shows a combination of limited productive integration and high infrastructure visibility. Slovakia shows a more stable form of GVC integration shaped primarily by European industrial networks. The comparison therefore supports the argument that the economic implications of BRI engagement depend on the country's existing production structure and the way external projects are embedded in domestic and regional economic systems.

3 Implications for Assessing BRI Engagement in Europe

The comparison of Serbia, Montenegro and Slovakia suggests that the economic implications of BRI engagement should be assessed with attention to the structure of integration rather than only to the presence of Chinese investment or infrastructure cooperation. In all three cases, BRI-related engagement exists in some form, but its relationship with global value chain integration differs considerably. This confirms the importance of distinguishing between participation in production networks and upgrading within them.

The Serbian case shows that high levels of GVC participation may coexist with strong dependence on foreign inputs. This means that deeper integration is not necessarily equivalent to stronger domestic value creation. Montenegro points to a different issue: a large and visible infrastructure project may become economically and politically significant without producing broad productive embedding. Slovakia illustrates another pattern, in which integration is shaped mainly by EU-centred industrial networks, while BRI engagement remains secondary to the existing production structure.

These differences indicate that BRI engagement in Europe should not be treated as a uniform process. The same broad initiative may be associated with different economic outcomes depending on the country's production base, fiscal exposure and institutional context. For this reason, future assessments of BRI in Europe should move beyond project visibility and examine how external engagement relates to domestic value creation, sectoral structure and the broader organisation of production networks.

Conclusion

This paper examined Belt and Road Initiative engagement and uneven patterns of global value chain integration in Serbia, Montenegro and Slovakia. The comparison shows that countries associated with the BRI do not follow a single path of economic integration. Although all three cases are connected in some way to China-related engagement, their positions within global and regional production networks differ substantially.

The findings suggest that participation in global value chains should not be treated as automatic evidence of upgrading. Serbia shows a high level of foreign-input dependence in exports, indicating deep but import-dependent integration. Montenegro illustrates a more limited form of productive integration, while the Bar–Boljare highway gives BRI engagement strong infrastructure visibility and fiscal significance. Slovakia, by contrast, remains primarily shaped by EU-centred manufacturing networks, with BRI-related engagement playing a more limited role.

The paper therefore argues that the economic implications of BRI engagement in Europe depend on country-specific production structures, fiscal conditions and institutional settings. Infrastructure cooperation may contribute to connectivity, but its developmental meaning differs according to how it is embedded in domestic and regional economic systems.

These findings are relevant for future research on BRI in Europe. Rather than assuming a uniform relationship between infrastructure investment and economic integration, further studies should examine how different countries enter global value chains and whether such entry supports domestic value creation, reinforces input dependence or remains filtered through existing regional production structures.

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THE RISING IMPORTANCE OF THE MIDDLE CORRIDOR IN EURASIAN TRADE

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Abstract: The escalation of the Russia–Ukraine conflict has significantly disrupted traditional trade routes between Asia and Europe passing through Russia. As a result, the Trans-Caspian International Transport Route, known as the Middle Corridor, has gained increasing strategic importance. The paper examines the growing role of the Middle Corridor in the context of shifting geopolitical relations between China, European Union, and Russia. The study applies qualitative analysis based on academic literature, policy documents, and findings from previous expert interviews. It identifies major opportunities for Central Asian and Caucasus countries, including infrastructure development and increased transit revenues, while also analysing barriers such as high transportation costs, regulatory fragmentation, and geopolitical instability. The paper concludes that the Middle Corridor is unlikely to replace northern trade routes in the short term but may become an increasingly important complementary route in Eurasian trade diversification.
Keywords: Middle Corridor, Eurasian trade, Belt and Road Initiative, geopolitics, transport corridors
JEL: F15, F51, R40

Introduction

The growing fragmentation of global trade routes has become one of the most important consequences of recent geopolitical tensions. The escalation of the Russia–Ukraine conflict in 2022 significantly disrupted traditional transport corridors connecting Asia and Europe through Russian territory, creating uncertainty for exporters, logistics providers, and policymakers. As a result, increasing attention has been directed toward alternative trade routes that could reduce dependence on Russian transit infrastructure (Vasa & Barkanyi, 2023). One of the most discussed alternatives is the Trans-Caspian International Transport Route, commonly referred to as the Middle Corridor. This route connects China with European Union markets through Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, and Turkey. Although this corridor has existed for years, its strategic importance has increased considerably due to sanctions imposed on Russia and broader efforts to diversify Eurasian supply chains (Eldem, 2022). The importance of the Middle Corridor must also be analysed in the broader context of China's Belt and Road Initiative, which has significantly reshaped trade connectivity across Eurasia since its launch in 2013. The initiative has created both economic opportunities and geopolitical concerns for participating countries, particularly in Central Asia and the Caucasus (Sielker & Kaufmann, 2020). Despite its growing relevance, the Middle Corridor continues to face several structural limitations, including higher transportation costs, infrastructure bottlenecks, regulatory fragmentation, and geopolitical risks in transit regions. These challenges raise questions about whether the corridor can become a viable long-term alternative to northern trade routes.

The aim of this paper is to analyse the increasing role of the Middle Corridor in Eurasian trade following the disruption of traditional routes through Russia. The paper identifies major opportunities and challenges associated with this corridor and evaluates its future importance

for trade relations between Asia and Europe. The paper applies qualitative research methods based on academic literature and policy documents on Eurasian economic integration and transport connectivity.

1 Literature review

Academic discussions on Eurasian connectivity have intensified significantly in recent years, particularly following the launch of China's Belt and Road Initiative in 2013. The initiative is widely regarded as one of the largest global infrastructure and connectivity projects, involving transport, logistics, energy, and digital infrastructure across multiple regions. According to the World Bank, the initiative involves more than 65 countries and represents a major effort to improve global connectivity (Rojanaleekul et al., 2022). Several authors emphasise that the Belt and Road Initiative should not be understood as a single project but rather as a portfolio of interconnected initiatives. Sielker and Kaufmann (2020) argue that the initiative includes railways, roads, ports, airports, energy projects, and digital infrastructure that collectively reshape Eurasian trade flows. Similarly, Bond (2017) highlights China's strategic motivations, including reducing industrial overcapacity, securing alternative transport routes, and expanding geopolitical influence. Within this broader framework, increasing scholarly attention has been devoted to alternative transport corridors connecting Asia and Europe. Historically, the Northern Corridor passing through Russia played a dominant role in Eurasian land transport. However, the escalation of the Russia–Ukraine conflict and the subsequent sanctions regime significantly disrupted this route (Vasa & Barkanyi, 2023). As a result, researchers have increasingly focused on the Trans-Caspian International Transport Route, commonly referred to as the Middle Corridor. This route connects China with European Union markets through Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, and Turkey.

Eldem (2022) argues that the Middle Corridor has become increasingly attractive due to efforts to reduce dependence on Russian transit routes. At the same time, the corridor creates opportunities for Central Asian and Caucasus countries to strengthen their role in global trade and logistics networks. However, several scholars also highlight substantial limitations. Kenderdine and Bucsky (2021) point to infrastructure weaknesses, while Palu and Hilmola (2023) emphasise geographical constraints and the limited short-term viability of alternative Arctic routes. Regulatory fragmentation, customs procedures, and transport costs remain major barriers to the competitiveness of the Middle Corridor. Current literature therefore reflects growing interest in the diversification of Eurasian trade routes but also indicates that alternative corridors continue to face profound structural and geopolitical constraints. This paper contributes to the existing discussion by analysing the current role of the Middle Corridor in the context of changing geopolitical relations and trade diversification efforts.

2 Methodology

This paper applies a qualitative research approach focused on the analysis of current developments in Eurasian trade connectivity. The research is based primarily on secondary data analysis, including academic literature, policy reports, and institutional publications related to international trade, regional integration, and transport infrastructure. Particular attention is devoted to studies examining the Belt and Road Initiative, the Middle Corridor, and the geopolitical consequences of the Russia–Ukraine conflict for international trade routes. Relevant reports published by international institutions such as the World Bank, the European Bank for Reconstruction and Development, and other regional organisations were also considered.

The analytical approach combines economic and geopolitical perspectives in order to assess both the opportunities and structural limitations of the Middle Corridor. The research

does not aim to provide quantitative forecasting but rather offers a qualitative assessment of current trends and future challenges in Eurasian trade connectivity.

3 Current Development of Trade Flows Through the Middle Corridor

Recent geopolitical developments have contributed to a visible increase in interest in trade flows through the Middle Corridor. Following the escalation of the Russia–Ukraine conflict and the introduction of sanctions against Russia, many companies began reassessing transport routes between Asia and Europe. The traditional Northern Corridor passing through Russian territory became associated with political uncertainty, sanctions-related risks, and reputational concerns for international companies (Vasa & Barkanyi, 2023). As a result, transit volumes along the Middle Corridor have gradually increased. Governments in Kazakhstan, Azerbaijan, Georgia, and Turkey have intensified efforts to improve transport infrastructure and attract additional trade flows. Investments in rail transport, port infrastructure, and customs modernisation have become increasingly important components of regional economic strategies (Eldem, 2022). An additional factor contributing to the growing relevance of the Middle Corridor is the changing behaviour of multinational companies and logistics operators. Many firms have adopted risk diversification strategies in response to geopolitical uncertainty, sanctions, and supply chain disruptions. Instead of relying on a single transport route, companies increasingly seek alternative corridors that reduce exposure to political instability. This trend became particularly visible after 2022, when many European firms reassessed their dependence on transport routes crossing Russian territory. As a result, the Middle Corridor has become part of broader corporate resilience strategies aimed at improving supply chain flexibility and reducing geopolitical risks (Palu & Hilmola, 2023).

Despite growing trade volumes, the corridor still handles only a fraction of the cargo volumes moved via maritime transport routes or the Northern Corridor. However, its importance lies in diversification rather than replacement. The Middle Corridor increasingly serves as a strategic backup route in an international environment characterised by geopolitical instability and supply chain disruptions (Maró & Török, 2022).

4 Opportunities and Challenges of the Middle Corridor

The growing importance of the Middle Corridor has created new economic opportunities for countries located along this route, particularly in Central Asia and the South Caucasus. Transit countries such as Kazakhstan, Azerbaijan, Georgia, and Turkey may benefit from increased transit revenues, infrastructure investments, and stronger integration into global supply chains. The corridor also creates opportunities for logistics development, railway modernization, port expansion, and foreign direct investment. For example, the European Bank for Reconstruction and Development announced investments exceeding USD 100 million in Kazakhstan's railway infrastructure, reflecting growing international interest in alternative transport routes (Eldem, 2022).

For the European Union, the Middle Corridor represents an opportunity to diversify trade routes and reduce dependence on Russian transport infrastructure. This objective has become increasingly important following sanctions imposed on Russia and broader efforts to strengthen economic resilience.

Similarly, China benefits from maintaining alternative export routes to European markets while reducing strategic dependence on a single transport corridor.

Despite these opportunities, the Middle Corridor continues to face several important challenges. Transportation costs remain substantially higher than those of the Northern Corridor passing through Russia. According to previous studies, transport costs may be approximately 1.7 times higher, while delivery times may be nearly twice as long (Kenderdine & Bucsky, 2021).

Infrastructure limitations remain another major obstacle. Certain railway routes, tunnels, ports, and bridges have technical restrictions related to capacity, weight, or dimensions. These problems are particularly visible in connections between the South Caucasus and Central Asia.

Regulatory fragmentation also remains a serious challenge. Different customs systems, administrative procedures, and legal frameworks across transit countries increase transaction costs and reduce efficiency. Vinokurov et al. (2018) identify border procedures, infrastructure bottlenecks, and administrative barriers as key obstacles to regional connectivity.

Another important challenge concerns maritime logistics in the Caspian Sea. Limited port capacities, weather-related disruptions, and the need for multiple cargo transfers reduce the efficiency of the corridor. Unlike direct railway routes through Russia, the Middle Corridor requires multimodal transport solutions that increase operational complexity. According to Maró and Török (2022), these logistical interruptions continue to reduce the competitiveness of the corridor despite growing political interest in its development.

Geopolitical instability presents an additional challenge. Political tensions in regions such as the South Caucasus, instability in Afghanistan, and broader global competition among major powers may influence the future development of the corridor.

Although the Middle Corridor is unlikely to replace northern Eurasian trade routes in the short term, it is becoming an increasingly important complementary route that reflects broader geopolitical and economic transformations in Eurasia.

5 Geopolitical Implications for the European Union, China and Central Asia

The development of the Middle Corridor cannot be analysed solely from an economic or logistical perspective. Its growing importance is closely connected to broader geopolitical transformations in Eurasia.

For the European Union, the corridor represents an opportunity to reduce strategic dependence on Russian transport routes and diversify supply chains. Following the escalation of the Russia–Ukraine conflict, the EU has increasingly focused on strengthening economic resilience and reducing vulnerabilities associated with external political risks (Vasa & Barkanyi, 2023). At the same time, the corridor enables the EU to strengthen economic relations with Central Asian countries such as Kazakhstan and Uzbekistan, which possess significant reserves of energy resources and rare earth materials. These resources may play an important role in European diversification strategies, particularly in reducing dependence on China in selected strategic sectors (Eldem, 2022).

For China, the Middle Corridor represents an additional route within the broader framework of the Belt and Road Initiative. Although China continues to benefit from multiple transportation options, the corridor provides an alternative in situations where northern routes become politically unstable (Sielker & Kaufmann, 2020). China's growing influence in Eurasia has generated mixed reactions. While many countries welcome Chinese infrastructure investments, critics point to rising debt dependency, corruption risks, and increasing political influence. Examples frequently discussed in academic literature include Montenegro and Pakistan (Bond, 2017).

The United States has also become increasingly active in Central Asia through initiatives such as C5+1, which seeks to strengthen cooperation between Washington and the five Central Asian republics. This reflects broader geopolitical competition in the region, where major powers increasingly view transport corridors as strategic instruments of influence rather than purely economic projects (Minakov, 2023).

For Central Asian states, the Middle Corridor presents an opportunity to strengthen their geopolitical importance. Countries that were previously viewed primarily as peripheral actors may become increasingly important transit hubs connecting Europe and Asia (Czerewacz-Filipowicz, 2019). However, these countries must also address internal structural weaknesses,

including regulatory inefficiencies, corruption, insufficient infrastructure, and weak institutional frameworks (Vinokurov et al., 2018).

The role of Turkey has also become increasingly important due to its geographical position and cultural connections with Turkic states in Central Asia. This strengthens Turkey's role as an important regional actor in Eurasian trade (Eldem, 2022).

At the same time, Russia remains an important factor despite sanctions and geopolitical tensions. Although its role in Eurasian transit has weakened, it continues to influence regional integration processes and trade relations (Minakov, 2023). The future development of the Middle Corridor will therefore depend not only on economic efficiency but also on geopolitical stability, diplomatic cooperation, and infrastructure modernization across participating states.

Conclusion

The disruption of traditional Eurasian trade routes caused by the Russia–Ukraine conflict has accelerated interest in alternative transport corridors connecting Asia and Europe. Among these alternatives, the Middle Corridor has gained growing strategic relevance as a route linking China and the European Union through Central Asia, the South Caucasus, and Turkey.

The analysis confirms that the corridor creates important economic opportunities for transit countries, particularly in the areas of infrastructure development, logistics expansion, and stronger participation in international trade networks. At the same time, the corridor contributes to broader efforts aimed at diversifying global supply chains and reducing dependence on routes passing through Russia.

However, the paper also identified substantial limitations, including higher transportation costs, infrastructure bottlenecks, regulatory fragmentation, and geopolitical instability. These challenges currently prevent the Middle Corridor from becoming a full substitute for northern transport routes. The findings suggest that the Middle Corridor will most likely serve as a complementary trade route rather than a replacement for existing Eurasian transport networks in the near future. From a broader perspective, the development of the Middle Corridor reflects ongoing geopolitical changes in Eurasia and demonstrates how international trade routes are increasingly shaped by political risks, sanctions, and strategic competition among major powers.

Future research could focus on quantitative trade data, infrastructure investment efficiency, and the long-term competitiveness of alternative Eurasian transport corridors. The future success of the Middle Corridor will largely depend on coordinated investments, harmonisation of customs procedures, and political stability among participating countries. Without stronger regional cooperation, the corridor may remain politically attractive but economically less competitive than existing alternatives. Nevertheless, its strategic relevance will likely continue to grow as global trade becomes increasingly influenced by geopolitical fragmentation.

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SECTION III
CURRENT ISSUES OF EUROPEAN UNION

DEMOCRATIC BACKSLIDING IN POLAND

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Abstract: The democratic backsliding in Poland represents one of the most significant challenges to liberal democracy within the European Union. This article analyses the political and institutional transformation of Poland during the rule of the Law and Justice (PiS) party from 2015 to 2023. The aim of the article is to identify the main causes, manifestations and consequences of democratic erosion in the Polish political system. The article draws on the academic literature. The findings show that the weakening of judicial independence, media pluralism and the system of checks and balances contributed to the gradual deterioration of democratic standards. The article concludes that the democratic backsliding in Poland was driven by a combination of populism, socio-economic discontent and the historical legacy of post-communist transformation, with the European Union playing an important yet limited role in regulating these processes.
Keywords: democratic backsliding, Poland, European Union, PiS
JEL: P30

Introduction

Democratic backsliding is currently considered one of the most serious threats to the proper functioning of liberal democracies, including those within the European Union member states. The countries of Central and Eastern Europe, which underwent democratic transformation and integration into European structures after 1989, were long regarded as examples of successful democratisation. In recent years, however, there has been increasing discussion of the weakening of democratic institutions, the rule of law and the principles of liberal democracy, particularly in the cases of Poland and Hungary. The aim of this article is to analyse the process of democratic backsliding in Poland, focusing on the period of the Law and Justice (PiS) party's rule from 2015 to 2023. The article examines the main causes of the rise of illiberal tendencies, reforms affecting the functioning of the judiciary, the media, electoral institutions and civil society, as well as the European Union's responses to these processes. The article draws on specialist literature and academic studies dealing with democratic backsliding, populism and the transformation of post-communist states. Attention is also paid to the broader context of Central and Eastern Europe and a comparison of Poland with Hungary as another significant example of the weakening of liberal democracy within the EU.

1 Democratic backsliding in the context of Central and Eastern Europe

According to the Oxford English Dictionary, the verb *'to backslide'* was first used in print in 1581 in the context of a 16th-century religious dispute between the English Latin scholar Walter Haddon and the Portuguese bishop Jerónimo Osório de Fonseca. The specific phrase in which it was used – i.e. *"the onely righteousnesse of Fayth, from whence they were back-slyden"* – refers to a return to a lower, earlier stage of (moral) development. The adjective 'back-sliding', in turn, first appears in the King James Bible of 1611 and then, more than 200 years later, in Sir Walter Scott's 1816 novel *The Tale of Old Mortality*, where Scott speaks of

"a backsliding pastor, that has . . . forsaken the strict path." Once again, the term 'backsliding' is used to describe a relapse into a previous state of immorality or sin. This normative meaning has been preserved to some extent in the concept of "democratic backsliding". In conjunction with the word democratic, the contemporary secular meaning of this concept is consistent with its origin in that it denotes a deliberate turning away from an ideal. There is, however, an important difference between the early modern, religious use of the terms 'backsliding' or 'backslide' and the contemporary secular concept of 'democratic backsliding'. Whilst the former is based on the specifically Christian ideal of striving for spiritual maturity and perfection (according to which *'no one is perfect who does not strive for further perfection'),* the latter (at least implicitly) is based on Enlightenment philosophies, which view history as moving towards ever-greater emancipation. The assumption seems to be that the theory and practice of democracy gradually evolved over the course of the 19th and 20th centuries to become more inclusive and democratic, culminating in *the 'universalisation of Western liberal democracy as the ultimate form of human government'.* (Wolkenstein, F., 2023)

A key theory on the international determinants of regime change was developed by Levitsky and Way (2010), who argue that democratisation depends on the density of a given state's ties with the West in the economic, geopolitical, social, communication and civil society spheres, and on its sensitivity to potential pressure from the West. The denser these ties are and the stronger this influence is, the more likely democratisation is. This theory has been applied to post-communist democratisation, where the most significant example of interconnection and influence following the collapse of the Soviet Union was the influence of the EU. It can also be successfully applied to the process of de-democratisation, e.g. if democratic linkages are too weak and/or are replaced by alternative linkages between illiberal populist challengers. (Holesch, A. & Kyriazi, A., 2022)

Democratic backsliding is understood as *"a process through which elected public bodies deliberately implement government plans aimed at systematically weakening, destroying or taking over internal checks and balances, with the aim of dismantling the liberal democratic state and consolidating the long-term rule of the dominant party."* (Wójcik, A., 2023)

Democratic backsliding is also commonly defined as *"a deterioration in the quality of democracy following a previous period of successful democratisation".* Although the general application of the concept of democratic backsliding across Central and Eastern Europe is highly contentious given the varying stages of democratic development and unique challenges at the national level, there is a consensus in the academic literature regarding the case of Poland. In the context of post-socialist states, democratic backsliding is often accompanied and reinforced by the capture of the state, which in turn undermines both political representation and the effective implementation of public policy. The use of state resources by ruling parties or corrupt elite networks in Central and Eastern Europe has, since the beginning of democratic transformation, gradually weakened democratic institutions and eroded their legitimacy. This process culminated in the rise of populist parties and the governments they formed, thereby further eroding democratic institutions. (Muliavka, V. & Kwiatkowska, A. & Plisiecki, H., 2025)

Poland and Hungary have historically been closely linked – as early as the Middle Ages, they were united by a personal union and a common monarch. After the Second World War, both countries were under the strong influence of the Soviet Union and adopted communist constitutions based on the socialist model of state and law. In the late 1980s, they subsequently underwent a similar process of transformation from a socialist regime to a democratic system. The histories of both countries have also been marked by significant border changes, loss of sovereignty and various historical traumas, such as the partition of Poland or the consequences of the First World War for Hungary. (Avar, Y., 2024)

After 1989, it seemed that the 'return to Europe' scenario was a success, as both Poland and Hungary were seen as examples of successful democratisation and Europeanisation in Eastern Europe. It was expected that the new democracies would adopt the principles of constitutional liberalism and the Western model of democracy. Almost three decades after the fall of communism, however, the view emerged that these principles had not been fully rooted and that, rather than a genuine realisation of democratic 'normality', there had been an imitation of it or an attempt to approximate the Western model. (Avar, Y., 2024).

The democratic backsliding in EU Member States has led to the emergence of two main strands of research. The first focuses on domestic factors and explains the weakening of democracy primarily through political, historical and socio-economic circumstances. In the case of Poland and Hungary, the decline of democracy is often understood as part of a broader trend of illiberal populism, which is linked to nativism or ethno-populism. Other approaches emphasise the specific historical legacy of Central and Eastern Europe, the experience of socialism, the problematic transition to democracy, and the merely superficial adoption of liberal-democratic values after 1989. From a political economy perspective, the negative consequences of economic reforms after 1990, social inequalities and the region's dependence on Western capital are considered to be the causes of illiberal reactions. Specific factors in individual countries are also significant, such as Viktor Orbán's strong position in Hungary, the failures of previous governments, or weak constitutional mechanisms for the protection of democracy. (Wonka, A. & Gastinger, M., & Blauberger, M., 2025)

There are numerous more specific case studies on the democratic backsliding, which offer a rich and detailed discussion of what the erosion of democracy entails. For example, research into recent attempts by the Hungarian and Polish governments to 'render ineffective' their countries' constitutions explicitly regard the specific concept of liberal democracy with strong, independent constitutional courts as the definitive normative standard. As Jan-Werner Müller notes, this form of 'limited democracy' was the preferred concept of the 'architects of the post-war Western European order' and forms the basis of the European Union's democratic constitution. This is interpreted as being implicit in Article 2 of the Treaty on European Union[1], which Hungary and Poland are alleged to be violating, in particular through their 'illiberal' attacks on the constitutional courts. In short, the democratic de in Hungary and Poland amounts to a departure from the 'restricted' concept of democracy that defines the Union's broader constitutional self-understanding. (Wolkenstein, F., 2023)

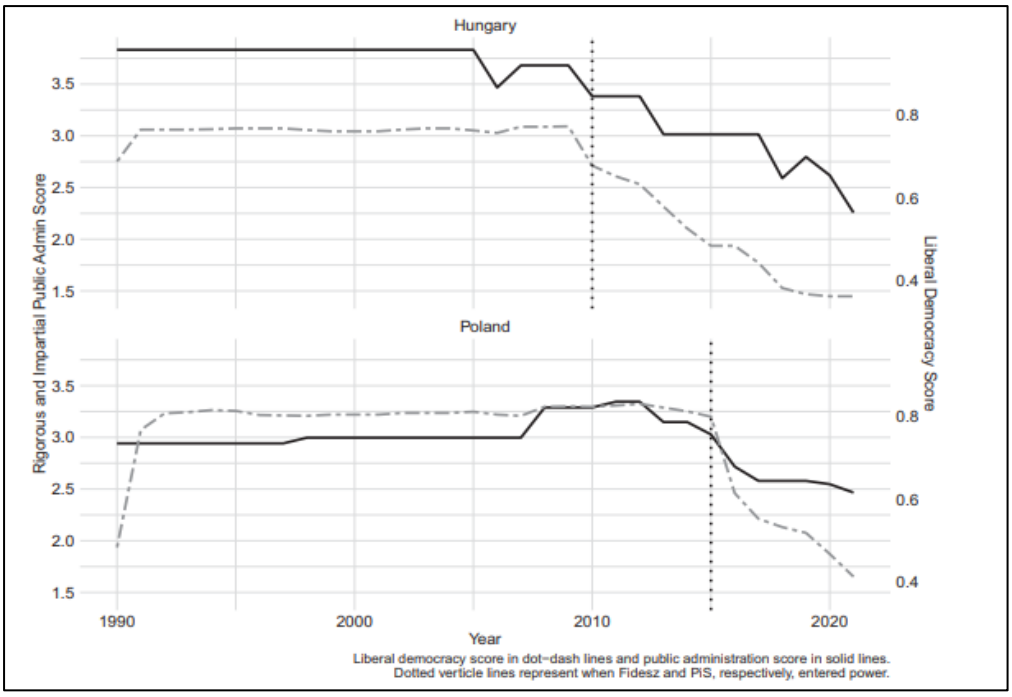
The European Union is often criticised for its inaction in protecting the rule of law. The main obstacles to more decisive action are the EU's complicated decision-making rules, the emphasis on consensus in the Council of the EU, and the reluctance of some governments to criticise similar practices in other states. The European Commission is often described as overly cautious, preferring dialogue with Member States to tough legal action. Even the European

[1] Article 2 of the Treaty on European Union stipulates that the Union is founded on the values of 'respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities'. The EU has established various mechanisms vis-à-vis its Member States to ensure compliance with EU law. Under Articles 258–259 of the Treaty on the Functioning of the European Union (TFEU), the Commission or a Member State may bring an action before the Court of Justice of the European Union to obtain a ruling on a Member State's (non-)compliance with EU law. Furthermore, in 2014 the Commission established the 'Rule of Law Framework for the European Union', which contains various recommendations for dialogue between the Commission and the Member State concerned. This is a non-binding framework which, in the event of failure, gives way to the procedures under Article 7, also known as the 'nuclear option'. Following its victory in October 2015, the PiS party began to reshape the composition of the Constitutional Tribunal (CT) and took control of the public service media. Unlike in the case of Hungary, European institutions were quick to threaten sanctions against Poland, including the initiation of proceedings under Article 7. (Holesch, A., & Kyriazi, A., 2022)

Parliament, although it has long advocated stronger protection of EU values, has, according to some authors, been weakened by political ties between the European People's Party and Hungary's Fidesz. The EU's more recent, decisive steps against democratic decline can therefore be explained primarily by changes in the relationships and functioning of the European institutions themselves[2]. (Wonka, A. & Gastinger, M., & Blauberger, M., 2025)

Figure 1 plots deterioration in the quality of democracy in two countries Hungary and Poland – that have been a major focus of the growing literature on democratic backsliding. The solid black lines show the V-Dem rigorous and impartial public administration score, while the red dot-dash lines show liberal democracy scores. Vertical lines reflect the entrance of backsliding parties. At first glance, the two metrics appear to move together. Though it remains hard to ascertain whether changes in one trend precede changes in the other, it does appear that, in both Poland and Hungary, ratings of the impartiality of the country's public administration began to decline before liberal democracy was eroded– in Hungary around 2009 and in Poland around 2013. (Cayton, F., & Rosenfeld, B., 2025)

Figure 2 V-Dem ratings for strict and impartial public administration and liberal democracy in Poland and Hungary



Source: Cayton, F., & Rosenfeld, B., 2025

In Hungary, significant and prolonged democratic decline is evident under Viktor Orbán and his Fidesz-led government from its election in 2010. Fidesz has remained Hungary's ruling party with Orbán as prime minister for four consecutive terms. In the parliamentary election of

[2] The EU's own mechanisms for addressing the breakdown of the rule of law, such as Article 7 of the Treaty on European Union, have been described as difficult to implement and as political rather than judicial tools. Their futile application in Hungary and slow progress in Poland highlight the difficulties inherent in relying exclusively on external, conventional legal processes to enforce a return to the rule of law when an illiberal government has deeply entrenched its influence. "A radical deterioration of constitutionalism in practice in states in decline" suggests that conventional, slow, and purely legalistic responses may not be sufficient to address the scope of this problem. (Jakubek-Lalik, J., 2025)

2022– for the fourth time since 2010–Fidesz secured a constitutional majority, winning 83% of the single member district seats with just 53 % of the vote. (Cayton, F., & Rosenfeld, B., 2025)

2 From democratic transition to the rise of PiS

Poland is a post-communist state. Although the threat posed by the rise of populism is global, the process of democratic erosion is strongly influenced by a country's recent history. Post-communist countries are prone to democratic bacsliding as a result of an imbalance between the branches of power.[3] (Dănilă, AE & Launai, Q. & Pătrașcu, LN, 2023)

Following the fall of the communist regime in 1989, Poland embarked on a far-reaching political and economic transformation towards democracy and a liberal market economy. Part of this process involved the liberalisation of the economy and efforts to attract foreign capital, which Mitchell A. Orenstein and Hilary Appel refer to as 'competitive signalling' among post-communist countries. At the same time, democratic reforms progressed alongside economic changes. (Dănilă, AE & Launai, Q. & Pătrașcu, LN, 2023)

In 1994, Poland officially applied for membership of the European Union and gradually adopted the reforms necessary to meet the Copenhagen[4] and Maastricht criteria. This resulted in EU membership in 2004. In the process, the country established democratic institutions designed to prevent a return to authoritarianism – a parliamentary system, proportional representation and a constitution based on a system of checks and balances. (Dănilă, AE & Launai, Q. & Pătrașcu, LN, 2023)

The early years of the transition were characterised by significant fragmentation of the political landscape. There were a large number of small parties, which made it difficult to form stable governing coalitions. The main conflict of the 1990s was the rivalry between former opposition forces and post-communists. Later, the divide between an open and a closed society came to the fore, namely the dispute between nationalism and multiculturalism, or pro-European and conservative stances. (Maatsch, A., 2023)

Social and economic disparities arising during the transition were also a significant source of tension. A conflict developed between the 'winners' and 'losers' of the transition to a market economy, which gradually created space for the rise of populist and Eurosceptic movements, such as the *Samoobrona/Self-defence party*, which mobilised support primarily against Poland's accession to the EU. (Maatsch, A., 2023)

Poland is a parliamentary democracy with a bicameral parliament. Since 2005, the political scene has been dominated by two right-wing parties, whose leaders played only a minor role in the pro-democratic opposition during the communist era. These parties are the centrist Civic Platform (Platforma Obywatelska: PO) led by Donald Tusk, which governed from

[3] For example, through the concentration of political power in the hands of the head of the executive. (Dănilă, AE & Launai, Q. & Pătrașcu, LN, 2023)

[4] i.e. democracy, the rule of law, human rights and the protection of minorities. Poland was thus required, among other things, to introduce free elections, secret ballots, freedom of the press, free trade unions, a government governed by written rules, and a declaration of human rights (Dănilă, AE & Launai, Q. & Pătrașcu, LN, 2023)

2007 to 2015[5], and the right-wing nationalist populist Law and Justice (PiS) party[6], which was in power from 2005 to 2007 and from 2015[7] to 2023.[8] (Wójcik, A., 2023)

Prior to the 2015 elections, during the rule of the Civic Platform (PO), Poland experienced a period of strong economic growth, low inflation, falling unemployment and rising living standards. The country was catching up with Western European standards and saw improvements in the functioning of both the media and the healthcare system. Nevertheless, PiS won the election, securing a parliamentary majority and, with the election of Andrzej Duda, also taking control of the presidency. Contributing to the PO's defeat were low public trust in political parties, economic problems in some regions, high youth unemployment and the precarious working conditions faced by many people. PiS managed to appeal to voters dissatisfied with the economic situation through a combination of social measures and appeals to national and moral values. The party thus presented itself as a culturally conservative yet economically and socially oriented force. (Şenyurt, S. E., 2024)

PiS gained significant voter support primarily through its emphasis on social security, a higher standard of living and the vision of a strong state. Its success in the 2015 elections was the result of several factors, such as growing social and economic inequalities, frustration with the transition period, low trust in the political elite, and a conservative reaction to modern social changes. National-Catholic traditions supported by the Church, fears of migration and the polarisation of public debate also played an important role. At the same time, many citizens felt that economic growth primarily benefited the elites, whilst a significant section of society remained dissatisfied. (Jarosz, AJ, 2024)

In response to these sentiments, PiS promised higher wages, more extensive support for families, the elderly and rural areas, and implemented a number of measures. The most significant project was the 'Family 500+' programme, which provided financial allowances for children and was intended to support families and boost the birth rate. Further social measures were gradually introduced, such as allowances for school supplies or special pensions. The

[5] On 10 April 2010, a plane crash caused an earthquake in Polish politics. Ninety high-ranking politicians were killed, including President Lech Kaczyński, the twin brother of PiS leader Jarosław Kaczyński. The PiS leadership blamed the PO and then-Prime Minister Donald Tusk for the crash, claiming that PO officials had organised the official visit that led to the crash. There were lengthy debates and mutual recriminations between the parties, and the plane crash became the subject of political controversy for a long time, as the media kept it constantly in the spotlight. On the other hand, the 2011 elections were the first in which Poles expressed their support for the current ruling party for a second consecutive term, with the PO once again defeating its rival, the PiS. (Şenyurt, S. E., 2024)

[6] The Law and Justice Party (Prawo i Sprawiedliwość – PiS) was officially founded in June 2001 through the efforts of brothers Jarosław and Lech Kaczyński. As Minister of Justice in the Buzek government, Lech Kaczyński gained popularity on the political scene through his uncompromising stance against bribery and corruption. The basic structure of PiS was formed by the Centre Agreement (PC) party, founded by Jarosław Kaczyński. When the PC ceased its activities, the PiS was founded and its founders moved to the new organisation. The PiS elite consisted of politicians with many years of parliamentary experience. (Şenyurt, S. E., 2024)

[7] In 2015, PiS formed the first single-party majority government in Poland since 1989. (Chiopris, C., & Nalepa, M., 2023).

[8] In Polish politics, the PiS party represents conservative, Catholic and nationalist values. Although it is Eurosceptic, it does not advocate Poland's withdrawal from the EU. Most of its voters support EU membership, but PiS emphasises the concept of a 'Europe of sovereign nation states'. The party supports the single European market but rejects further federalisation of the EU and argues that decisions on reforms of state institutions should be taken primarily by national governments, not by European bodies. In the economic sphere, it advocates socially oriented policies and redistribution. The main opposition force, Civic Platform, holds moderate centre-right and pro-European views. It supports closer European integration and, in economic policy, combines deregulation with moderate social measures. The Polish left brings together both post-communist and progressive movements. It promotes liberal social values, supports the rights of LGBTQ+ people, the liberalisation of reproductive rights and the separation of church and state. At the same time, it is strongly pro-European, supports deeper EU integration and, in economic terms, advocates a strong welfare state and redistributive policies. (Maatsch, A., 2023)

party also addressed issues of housing, regional disparities and the transport isolation of rural areas. Although the 'Byt+' project did not deliver the expected results, PiS consolidated its support by backing farmers, local communities and public services outside major cities. (Jarosz, AJ, 2024)

Strengthening the state and security forces was also a key part of PiS's policy. Investment was channelled into the army, police and border guards, and the government emphasised cooperation with the US and the need for protection against the Russian threat. Despite initial criticism of high social spending, the government managed to increase state revenues, primarily by curbing tax evasion, which enabled the funding of social programmes and infrastructure projects. At the same time, the economy continued to grow and the standard of living for many households improved, which reinforced the image of PiS as a party capable of effectively delivering on its promises, although the opposition criticised some reforms and the way laws were passed. (Jarosz, AJ, 2024)

The 2015 elections had a fundamental impact on the development of democracy in Poland. Despite the country's growing prosperity, PiS began to pursue an illiberal and partly authoritarian style of governance. Although it did not secure a constitutional majority, its dominance in parliament and the presidency enabled it to adopt populist measures and weaken democratic institutions. Alongside socio-economic reforms, it sought to build a model of the state distinct from Western democracies, in which legal institutions were gradually marginalised. (Şenyurt, S. E., 2024)

The PiS's style of governance was often likened to the communist era, when the leader of the ruling party held a dominant position. The PiS leadership gradually gained control over both legislative and executive power and defended its interference in the separation of powers with the concept of 'sovereign democracy' or 'the will of the people'. According to this logic, the parliamentary majority has the right to act on behalf of the nation without significant restrictions from institutions. (Şenyurt, S. E., 2024)

This approach also exacerbated the polarisation of society and reinforced the party's Eurosceptic stance. PiS's political rhetoric increasingly portrayed the opposition, liberals, civil society and post-communist circles as internal enemies, whilst the EU was depicted as an external threat. The party thus gradually shifted towards a more hardline nationalist and confrontational style of politics. (Şenyurt, S. E., 2024)

3 Democratic backsliding during the PiS government (2015–2023)

The period of PiS rule from 2015 to 2023 was marked by a departure from democratic standards, including the structural weakening of the system of checks and balances, judicial independence and freedom of the press. The PiS government subordinated state institutions (the Constitutional Court, the public prosecutor's office, media regulatory bodies, and the competition authority) to political objectives. Human rights were curtailed, particularly freedom of expression, freedom of assembly, and women's reproductive rights. The PiS government has waged polarising campaigns against opposition parties, perceived elites (judges, doctors), sexual minorities (LGBT) and social activists promoting progressive values. PiS carried out a comprehensive transformation of the state and a replacement of elites in politics, state media and state-controlled companies. The PiS government was also in conflict with the European Union over the rule of law and, more generally, the state of democracy in Poland. The process of democratic erosion was slowed by the activities of pro-democratic civil society. (Wójcik, A., 2023)

After 2015, the PiS government introduced reforms that strengthened political control over state-owned enterprises. Privatisation was effectively halted and, conversely, renationalisation processes began, particularly in banking and finance, which increased the state's share in the economy. In 2017, the government switched to a decentralised model of

state asset management, with supervisory powers divided among several ministries. However, this model proved ineffective, and so the Ministry of State Assets was subsequently established to take over the supervision of most state-owned enterprises. (Sękowski, S., 2026)

Another significant step was the relaxation of qualification requirements for members of the supervisory and executive boards of state-owned enterprises in 2019. This allowed these positions to be filled by politically loyal individuals without the necessary expertise, making the enterprises more dependent on party interests. The system of sponsorship for state-owned firms also changed – the rules were weakened and firms were no longer required to strictly adhere to recommendations regarding the funding of various activities. Critics therefore argue that state-owned enterprises were increasingly used to build political influence and party networks.[9] (Sękowski, S., 2026)

Following its victory in the 2015 elections, the PiS government introduced extensive judicial reforms, which it justified on the grounds of the need to speed up court proceedings and eliminate inefficiencies in the system. Government politicians portrayed judges as a closed elite detached from the public and claimed that the reforms would bring greater democratic control over the courts. (Horonziak, S. & Kaim, M., 2025)

However, the reforms drew sharp criticism both at home and abroad, as their opponents viewed them as an attack on the independence of the judiciary and the politicisation of the justice system. Nevertheless, the reform enjoyed relatively strong public support, particularly among PiS voters. Paradoxically, the average length of court proceedings actually increased following the reforms. (Horonziak, S. & Kaim, M., 2025)

Following the new government's accession in 2023, The Coalition of October 15 attempted to weaken or circumvent the PiS changes, which, however, simultaneously raised further questions about the legal certainty and stability of the Polish judiciary[10]. (Horonziak, S. & Kaim, M., 2025)

Table 1 Presents a set of institutional reforms implemented by the PiS government in Poland

In 2016, Justice Minister Zbigniew Ziobro merged his role with that of the Prosecutor General, thereby gaining extensive control over the public prosecutor's office, including the power to appoint and dismiss senior prosecutors or intervene in investigations. He used this power to strengthen the influence of the Law and Justice government within the judiciary. In Poland, the Minister of Justice also holds the office of Prosecutor General.
Further reforms followed in 2017, enabling the Minister of Justice to appoint and dismiss court presidents, court directors and disciplinary officials. Ziobro subsequently replaced the leadership in more than 150 courts and expanded disciplinary control over judges. In the same

[9] Paradoxically, this is reminiscent of the situation during the communist era, when the centralised, authoritarian government funded social organisations that were in line with its policies and, in return, actively promoted the line of the United Polish Workers' Party (Polska Zjednoczona Partia Robotnicza – PZPR), around which its members and sympathisers rallied, but which neither sought autonomy nor attempted to hold those in power to account. (MAKOWSKI, G., 2023)

[10] Following the change of government in 2023, the The Coalition of October 15 attempted to resolve the situation but encountered a problem regarding how to deal with the so-called 'new judges'. In 2024, Prime Minister Donald Tusk initially supported the appointment of one of them to a senior post at the Supreme Court, but withdrew his signature following criticism. This move sparked further disputes over legal certainty and the legitimacy of the reform process. In September 2024, Justice Minister Adam Bodnar presented a proposal to resolve the status of the new judges. It envisaged dividing them into several categories – some were to remain in office, some were to return to their original positions, and others were to acknowledge their participation in the reforms as a mistake. However, the proposal faced criticism for its political nature and unclear criteria, and its adoption was blocked by President Duda. The dispute over judicial reform thus remains one of the biggest problems facing Polish democracy. (Horonziak, S. & Kaim, M., 2025)

year, parliament approved reforms to the National Council of the Judiciary and the Supreme Court.

In 2017, parliament adopted two fundamental reforms – the reform of the National Council of the Judiciary and the reform of the Supreme Court. The National Council of the Judiciary was a key body, as it submitted proposals to the President for the appointment of judges, initiated disciplinary proceedings and safeguarded the independence of the judiciary. Prior to the reform, its members were selected by the judges themselves, thereby limiting political influence. However, the reform introduced a system in which the Council's judges were selected by the Sejm through a majority vote. At the same time, the terms of fifteen Council members were terminated prematurely, allowing the governing coalition to fill all positions with new candidates at once. The result was the de facto takeover of the Council by the United Right government. Experts and lawyers described the reform as unconstitutional and politicising.[11]

At the same time, a reform of the Supreme Court was underway. A retirement age of 65 was introduced, meaning that around 40% of judges could be replaced by new candidates unless President Andrzej Duda decided to keep them in office. The vacancies were filled by judges associated with the United Right or by new judges appointed by the reformed National Council of the Judiciary. The reform also created two new chambers – the Disciplinary Chamber and the Chamber for Extraordinary Control and Public Affairs – which were staffed by new judges. This gave rise to a conflict between the 'old' and 'new' judges, with part of the judiciary refusing to recognise the legitimacy of the new appointments.

Legislation was drafted to change the composition of the National Council of the Judiciary (Krajowa Rada Sadownictwa, KRS), an independent body that issues recommendations on who should be appointed as a judge (including to the Supreme Court) and which also initiates disciplinary proceedings against members of the judiciary. Prior to the adoption of this legislation pushed through by the PiS party, the KRS was composed exclusively of judges. The PiS's new legislation dismissed the existing members and replaced them with political appointees.

The comprehensive reforms did not spare the lower courts either. Judges over the age of 65 were forced to retire unless they obtained an exemption from the Minister of Justice. Permission was granted only after review by a special commission. The reforms also enabled the government to initiate disciplinary proceedings against judges, as parliament now had the power to appoint members of the KRS, the body responsible for disciplinary proceedings against judges. A report entitled 'Judges under pressure' described in detail the disciplinary proceedings initiated by the disciplinary chamber of the reformed Supreme Court. Many of the judges against whom disciplinary proceedings were brought were themselves members *of Iustitia*, an association of judges dedicated to the values of the rule of law and judicial independence. Although the conduct of prosecutors could not be subject to disciplinary proceedings by the Supreme Court, the Prosecutor General – a position also controlled by the PiS party – could take measures that made their personal lives very difficult, for example by transferring them from one city to another, even to the other end of Poland. Several judges, including Mariusz Krasoń, were relocated in this way.[12]

The Constitutional Court was already under the control of the PiS party as a result of judicial reforms carried out within a few months of the PiS government's formation. These reforms were

[11] In 2019, the Constitutional Court ruled that the system of selecting judges by the Council through the Sejm was constitutional. As the very independence of the Constitutional Court was being questioned, the decision was often interpreted as a political legitimisation of the reform. From that point on, doubts began to emerge regarding the status of the so-called 'new judges' appointed by the reformed Council and the legitimacy of their decisions. (Horonziak, S. & Kaim, M., 2025)

[12] These measures potentially violated at least two articles of the 1997 Constitution (Articles 181 and 182), yet the Constitutional Court did not address either of them. (Chiopris, C., & Nalepa, M., 2023)

triggered by a crisis that arose when President Andrzej Duda refused to appoint three judges to the Court to replace those whose terms were expiring. However, these three judges had been elected by a parliament still controlled by the Civic Platform (Platforma Obywatelska (PO), the predecessor of the PiS party. The Constitutional Court confirmed the constitutionality of the vote, but the PiS minister responsible for publishing the ruling prevented it from being printed. The three judges nevertheless became members of the Court. Tensions escalated when PiS, using its parliamentary majority, elected its own three candidates, who also became members of the court. Nevertheless, Andrzej Rzeplinski, who as President of the Court had the power to appoint judges to the chambers, refused to appoint the PiS candidates, the so-called 'substitutes' (Polish: 'dublerzy'). PiS subsequently decided to remove Rzeplinski by shortening the terms of office of all Constitutional Court judges over the age of 65. A loyal PiS member, Julia Przylebska, was appointed to replace him.
For example, Parliament has seen its powers significantly weakened in terms of its involvement in the debate on new draft laws submitted by the government.
Furthermore, the government has tightened its control over the state media and the previously independent National Broadcasting Council.
The terms of office of the directors of public television and radio stations were terminated, and their successors were appointed by the Minister of Finance.
Other controversial measures included certain restrictions on freedom of assembly and the right to public protest, new regulations on the funding of non-governmental organisations, and a reform of the National Electoral Commission, which strengthened the role of politically appointed individuals.

Source: own compilation based on: Chiopris, C., & Nalepa, M., 2023; Cassani, A., Panaro, A., Szymański, A. and Zamęcki, Ł. 2023

The Polish parliament responded to the crisis of the rule of law by adopting government reports and resolutions emphasising the protection of Polish sovereignty. In 2016, Prime Minister Beata Szydło defended the government's stance towards the EU and accused the opposition of acting against Polish interests in Brussels. Subsequently, the parliament adopted a resolution on the protection of Poland's sovereignty, which presented the dispute with the EU over the Constitutional Court as an interference in the country's internal affairs. (Granat, K., 2023)

Following the initiation of proceedings under Article 7 of the Treaty on European Union against Poland, the Hungarian parliament, controlled by the Fidesz party, also expressed its support for the Polish government in 2018. It described the EU's actions as unfounded and criticised the political pressure from Brussels. The Polish Senate subsequently adopted a resolution expressing support for cooperation between Poland and Hungary within the framework of the 'EU of sovereign states. The opposition, however, pointed out that these steps served the governments of both countries rather than the protection of the principles of the rule of law. (Granat, K., 2023)

The European Parliament played a significant role in resolving the Polish crisis, having been among the most vocal critics of the erosion of the rule of law in Poland and Hungary. Since 2013, it had been advocating the creation of mechanisms to monitor compliance with EU values and later proposed a single instrument to protect democracy, the rule of law and fundamental rights. At the same time, the European Parliament organised debates on the situation in Poland, sent fact-finding delegations and adopted a series of resolutions criticising interference with the independence of the judiciary and fundamental rights. (Granat, K., 2023)

Between 2016 and 2018, the European Parliament adopted four significant resolutions concerning Poland. The first focused on the paralysis of the Constitutional Court, whilst the others criticised the weakening of constitutional oversight and judicial reforms. In 2017, the European Parliament described the situation in Poland as a serious risk of a breach of EU values

and supported the initiation of proceedings under Article 7 TEU, which were subsequently also initiated by the European Commission. (Granat, K., 2023)

The erosion of media independence in Poland has raised concerns among international organisations, such as Reporters Without Borders (RSF), which have significantly downgraded the country's ranking in the Press Freedom Index since 2015 and highlighted a serious threat to media freedom. Criticism has been directed at the policy of so-called 're-Polonisation' of the media, i.e. the effort to bring media owned by foreign companies back under Polish control. (Brazil, D., 2022)

The PiS party presented this move as a means of protecting national sovereignty, but journalists and media organisations viewed it more as an attempt to gain control over private media. Concerns are all the greater given that major private media outlets in Poland are owned by American and German entities, whilst public service media have long been accused of strongly supporting the PiS government and President Duda. This has contributed to growing polarisation within society between viewers of state and private media. The planned changes also included an increase in advertising tax, which could have seriously weakened or even wiped-out private media, whilst strengthening the dominance of pro-government sources. Although TVN ultimately did not lose its licence despite being American-owned, critics argue that the interventions in the media landscape alone have already damaged the quality of Polish democracy. Pluralistic and independent media are, after all, the foundation of a democratic system. Restrictions on critical media, pressure on foreign owners and threats to revoke licences are therefore seen by many as manifestations of illiberal policies aimed at weakening criticism and strengthening the government's control over the media. (Brazil, D., 2022)

PiS wanted to reap the benefits of membership, particularly EU funding, yet at the same time rejected some of the obligations arising from membership[13]. The tension between Poland and the EU was not limited to judicial reform. The Polish government has long refused to cooperate with the EU on issues relating to minority rights, the LGBTQ+ community, and the independence of the media and the courts. A key problem is the unwillingness to recognise the primacy of EU law, which is a fundamental principle of EU membership. A significant turning point was the 2021 ruling by the Polish Constitutional Court which stated that certain EU legal provisions conflict with the Polish constitution and need not be applied. This move was described as unprecedented within the EU and reinforced fears of a weakening of democracy in Poland. Critics argue that the PiS government is seeking to curtail all institutions – both domestic and European – that could scrutinise it or hold it to account for breaches of democratic principles. (Brazil, D., 2022)

Since 2015, the PiS government has implemented several extensive electoral reforms, with the most significant changes adopted in 2018 and 2023. Special legislation was also adopted during the Covid-19 pandemic to enable the holding of the 2020 presidential election. The 2018 reforms fundamentally changed the electoral administration system. Until then, the National Electoral Commission (NEC) had been composed exclusively of judges from the

[13] It is worth emphasising here the significance of the use of EU funds for corruption: in Poland, even under the PiS government, corruption continues to be viewed as a breach of the rules and is subject to criminal prosecution, whereas in Hungary, according to several authors, it is closely intertwined with the very functioning of the state. Between 2011 and 2021, more than a fifth of public contracts financed by EU funds were awarded to a small group of twelve individuals linked to the power elites. The best-known example is Lőrinc Mészáros, a close friend of Viktor Orbán and former mayor of his home town, who rose from being a local businessman to become one of the richest people in Hungary, largely thanks to contracts funded by EU funds. Analyses of tenders also suggest a high degree of manipulation of public tenders in favour of selected actors. Unlike Hungary, Poland under PiS leadership has maintained a functioning market economy, private ownership and economic competition. Although, according to some authors, the regime has moved away from the ideal of an open democratic order, entrepreneurs in Poland still do not need to be directly involved in politics to maintain their businesses, protect their assets or compete in the market. (Madlovics, B., & Magyar, B., 2023)

Constitutional Tribunal, the Supreme Court and the Supreme Administrative Court. Following the reform, however, most members began to be nominees of political parties in proportion to their representation in parliament, thereby increasing political influence over the commission's functioning. The method of selecting the chair of the electoral commission also changed, as candidates were no longer nominated by the NEC itself, but by the Minister of Public Administration. (Vashchanka, V., 2025)

The 2023 reforms introduced a centralised electoral register to replace the previous local registers, reduced the number of voters required to establish a polling station, and provided free transport for elderly and disabled voters in rural areas. At the same time, election commission officials were given the power to record the voting process and the counting of votes, and began to receive remuneration from public funds. The requirements for membership of regional election commissions were also relaxed, as people with a legal education could now hold these positions instead of judges. Critics pointed out that several changes favoured rural areas, where PiS enjoyed stronger support, whilst the problems of urban constituencies remained unresolved. (Vashchanka, V., 2025)

The opposition, civil society and some independent institutions spoke out against these reforms. The President of the Supreme Court and the National Council of the Judiciary warned that replacing judges with political appointees would undermine the independence and impartiality of electoral bodies. A proposal to hold the 2020 presidential election exclusively by postal vote also provoked significant resistance. PiS attempted to bypass the National Electoral Commission and tasked the Minister of State Assets with organising the election. However, following criticism from the opposition, civil society organisations, the Ombudsman and some local authorities, the government backed down, postponed the elections and allowed a combination of in-person and postal voting. (Vashchanka, V., 2025)

Despite resistance from civil society, the government often pushed through reforms without wider debate and with limited consultation. Several laws were adopted through fast-track procedures, with some bills passing through parliament in a single day. Critics therefore highlighted the deterioration in the quality of the legislative process and the erosion of trust in the electoral administration. On the other hand, civil society became significantly more active during this period. Organisations monitored elections, trained observers, mobilised voters and drew attention to problematic reforms. Feminist and civic initiatives also played a significant role, supporting the participation of women and young people in the democratic process. (Vashchanka, V., 2025)

Poland was among the countries where strategic lawsuits against public participation (SLAPPs) were frequently used against journalists and activists from non-governmental organisations; in 2021, it was even designated the 'SLAPP country of the year'. Similar trends emerged in other Visegrad Group countries and were part of a broader global trend of restricting foreign funding for organisations working on human rights or environmental issues. Restricting their financial resources was also a significant tool for weakening advocacy NGOs. In Poland, during the PiS government's term from 2015 to 2023, civil society organisations dedicated to human rights, advocacy or public oversight of power became the target of political pressure. Research has shown a decline in the advocacy activities of NGOs – for example, participation in public consultations, campaigns, protests or lobbying for systemic change. At the same time, the government supported the establishment and funding of organisations aligned with the conservative and nationalist agenda of the United Right, a process described as a "state-sponsored elite replacement" within civil society. This process was accompanied by interventions into the independence of the judiciary, the media and the parliamentary opposition. The political parties themselves, however, played a decisive role in restricting the space for non-governmental organisations and their participation in public consultations. The response from part of civil society was to strengthen international ties and cooperation with

transnational organisations. Polish NGOs thus responded to the democratic decline by mobilising social media, international support and broader cooperation with the academic community, the media and other civil society actors. (Chimiak, G., 2026)

In the autumn of 2023, Poland became the focus of European public attention following parliamentary elections held after eight years of rule by Jarosław Kaczyński's Law and Justice (PiS) party. The general question was whether, after two terms in office, it would be possible to remove from power a populist right-wing government that had carried out profound institutional and legal transformations and pushed Poland out of the community of liberal democracies. (Citkowska-Kimla, A., & Kimla, P., 2025)

In Poland, by the end of the PiS government's term (2015–2023), the judiciary had become deeply divided: some judges adhered to the normative tradition and defended the rule of law, whilst others acted within the logic of privilege and promoted the ruling party's political agenda. In Hungary, after more than a decade of Fidesz rule, an independent judiciary had become 'almost extinct'. In Poland, however, the change of government in 2023 opened a fragile opportunity: although "the new government has begun to dismantle the judiciary's privileged status", this is "a complex process that may take longer than expected"[14]. (Jakubek-Lalik, J., 2025)

Poland's transition from an authoritarian to a democratic system is slow and complicated, as reforms must be carried out in accordance with the law. The previous PiS government created legal and institutional obstacles which, without the cooperation of President Andrzej Duda, often lead to deadlock. Even after the change of government, people linked to PiS remained in key positions, such as the head of the Media Council, Maciej Świrski,[15] , and the leadership of the Constitutional Court. The latter has repeatedly blocked the new government's moves, such as efforts to bring Central Bank Governor Adam Glapiński before a state court or to investigate the surveillance of the opposition. Prime Minister Donald Tusk therefore opted for a strategy of biding his time until the end of Duda's term and expected a victory for the Civic Coalition's candidate, Rafał Trzaskowski. However, this did not happen – the presidential election was won by Karol Nawrocki[16], a candidate supported by PiS, which has complicated the process of redemocratisation. Tusk nevertheless continues his efforts to

[14] For example, the decision to disregard rulings issued by a politically controlled Constitutional Court may be viewed as a legally controversial but strategically necessary measure aimed at eliminating the remnants of what is called "abusive constitutionalism" and restoring the democratic constitutional order. Such steps raise a fundamental normative dilemma: whether the restoration of the rule of law can justify deviations from the contentious legal framework inherited from an illiberal regime. In reality, the government is often forced to balance legal formalism with democratic restoration, illustrating the ethical and constitutional paradox faced by reformist governments in post-authoritarian settings. Nearly two years after the 2023 elections, it remains clear that the restoration of liberal democracy has progressed more on a rhetorical level than through substantive institutional transformation. The Polish case thus confirms the general finding that the restoration of the rule of law is not a one-time event, but a protracted and uncertain process. (Jakubek-Lalik, J., 2025)

[15] He is known, among other things, for blocking the broadcasting licences of the opposition television station TVN, which is owned by the American company Warner Bros. Discovery.

[16] It is highly unlikely that the new president—judging by his public statements and his early use of the veto—will support the government's proposed reforms aimed at restoring the rule of law, particularly with regard to judicial independence. His veto power allows him to block or significantly delay key legislative initiatives, thereby forcing the government to either compromise or seek alternative and potentially legally questionable avenues. The Constitutional Tribunal, which is already highly politicized, played a key role in legitimizing the agenda of the previous PiS government, including decisions that questioned the compatibility of EU and ECHR standards regarding judicial independence with the Polish Constitution. The new president is expected to continue submitting government bills to this court for preliminary constitutional review, thereby using it as a mechanism to block reform efforts. As a result, the court will likely continue to pose a significant institutional obstacle to the restructuring of the judiciary, thereby further prolonging the constitutional crisis in Poland. (Jakubek-Lalik, J., 2025)

hold former PiS officials to account, emphasising that he is acting strictly in accordance with the law, not out of political revenge[17]. Charges have already been brought against former Prime Minister Mateusz Morawiecki and several ministers, but the new president can protect the accused by exercising a presidential pardon. (Citkowska-Kimla, A., & Kimla, P., 2025)

Following the change of government in 2023, there were efforts to amend the electoral system and remove some controversial reforms. However, the proposed changes met with resistance from President Andrzej Duda, who referred them to the Constitutional Court. Discussion of further reforms has therefore been postponed until after the 2025 presidential election. In the meantime, civil society organisations have drawn up proposals to increase the transparency of campaign financing, regulate political advertising on social media, reform electoral bodies and expand the options for postal voting. (Vashchanka, V., 2025)

Conclusion

The democratic decline in Poland during the PiS government's rule from 2015 to 2023 represented a significant encroachment on the functioning of the liberal-democratic system and the principles of the rule of law. Judicial reforms, the weakening of media independence, the politicisation of public institutions and pressure on civil society gradually undermined the system of checks and balances established after the fall of communism as a safeguard against the concentration of power. The process of democratic erosion was accompanied by a strong polarisation of society and a rise in nationalist-populist rhetoric. The analysis shows that the democratic decline in Poland cannot be explained by a single factor. The social and economic consequences of post-communist transformation, low public trust in political elites, conflicts over culture and values, as well as the country's historical and institutional specificities, all played a significant role. PiS managed to exploit these factors politically through a combination of social measures, conservative values and an emphasis on national sovereignty. The European Union was a key player in the process of safeguarding democratic principles, employing a range of legal and political instruments against Poland, including proceedings under Article 7 of the Treaty on European Union. Nevertheless, the limits of the EU's ability to respond effectively to democratic decline in member states have become apparent. Following the 2023 parliamentary elections, an opportunity for a process of redemocratisation has opened, but this remains complicated by persistent polarisation, legal obstacles and the continuing political influence of actors linked to the previous government.

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[17] The case of Poland shows that administrative law can serve not only to undermine but also to restore the rule of law, especially when legislative reforms are politically blocked. After 2023, the government used administrative tools to gradually strengthen judicial independence and institutional integrity, for example by limiting political appointments or utilizing existing legal procedures instead of extensive legislative changes. These steps demonstrate that administrative discretion can be a pragmatic tool for democratic renewal in the context of a constitutional stalemate. At the same time, the Polish experience confirms the importance of local self-government as a counterweight to centralized power, strengthening democratic control, civic engagement, and resilience against illiberal tendencies. (Jakubek-Lalik, J., 2025)

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CONDITIONS FOR THE ADMISSION OF WORKERS FROM THIRD COUNTRIES TO THE EU[1]

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Abstract: Labour migration from third countries is becoming a key instrument for addressing demographic change and labour shortages in the European Union. This article analyses the conditions for admitting third-country workers, focusing on the EU legal framework, admission mechanisms and their effectiveness. Particular attention is given to instruments such as the Single Permit, labour market tests and the EU Blue Card. The analysis shows that despite a comprehensive legislative framework, the system remains fragmented due to differences in national implementation and administrative complexity. Furthermore, the persistent problem of brain waste indicates insufficient use of migrants' skills. The article concludes that improving administrative procedures, enhancing recognition of qualifications and strengthening coordination between member states are essential for increasing the effectiveness of EU labour migration policy.

Keywords: EU labour migration, third-country nationals, migration policy, brain waste, EU Blue Card

JEL: J61, J21, J24, J68

Introduction

Conditions for the admission of workers from third countries are among the most discussed topics in the current EU migration and labour policy. On the one hand, the EU is facing an ageing population, a shrinking workforce and significant labour shortages in various sectors such as health, social care, IT, as well as construction and agriculture. On the other hand, Member States are politically extremely sensitive to the topic of migration, leading to strict entry and residence rules and major differences in national policies. In January 2024, 29.4 million people accounted for the part of the EU population that does not have the nationality of any EU country, representing 6.4% of the EU population. Demographic developments in the European Union indicate a gradual decline in the number of people of working age and an increase in the proportion of the elderly population. (Eurostat, 2024)

According to the European Commission's projections, the EU labour force may decline significantly by 2050, with significant implications for economic growth and the sustainability of social systems. The aim of the thesis is to analyze the conditions for the admission of workers from third countries to the EU. Attention is focused in particular on the legal framework and objectives of EU legislation, namely admission procedures such as single permits, labour market tests, quotas, temporary and permanent residences, the main differences between Member States in implementation, the specific position of highly skilled migrants within the EU Blue Card system, as well as the evaluation of the effectiveness of the current system from the point of view of the labour market and the protection of migrants' rights. (Eurostat, 2024)

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1 Theoretical and legal framework

The EU legal framework for the recruitment of workers from third countries is quite extensive, but still fragmented. The starting point is Article 79 TFEU, which gives the EU the power to adopt measures on the conditions of entry and residence of third-country nationals, including the definition of the rights granted to them by Member States. At the same time, however, this article explicitly leaves it to the Member States to determine the volumes of recruitment of workers from third countries for the purpose of employment. (EUR-LEX, 2016) The EU legal framework for the recruitment of workers from third countries is quite extensive, but still fragmented. The EU has the power to adopt measures on the conditions of entry and residence of third-country nationals, including defining the rights granted to them by Member States. (Halilovic, 2024) At the same time, however, the EU explicitly leaves it to Member States to determine the recruitment volumes of third-country workers for employment purposes. (EUR-Lex, 2016)

The key directives form the so-called migration package in the field of legal migration. Directive 2011/98/EU introduces a single permit and a common set of rights for third-country workers. (European Parliament and Council of the European Union, 2011) Directive 2014/36/EU regulates the conditions of entry and residence of seasonal workers from third countries. (European Parliament and Council of the European Union, 2014a) Directive 2014/66/EU focuses on Intra-Corporate Transferees (ICT), i.e. managers, specialists and trainees temporarily transferred within multinational enterprises (European Parliament and Council of the European Union, 2014b). Directive (EU) 2016/801 regulates the conditions of entry and residence of researchers, students, trainees and volunteers from third countries. (European Parliament and Council of the European Union, 2016) Directive 2003/109/EC concerning the status of long-term residents of third countries also plays an important role, laying down the conditions for obtaining long-term residence after five years of legal residence, thereby ensuring equal treatment in many areas, including access to the labour market and a certain degree of mobility within the EU. (Council of the European Union, 2003)

The EU Blue Card is crucial in the field of highly skilled migration, where the original Directive 2009/50/EC has been replaced by Directive (EU) 2021/1883 on the conditions of entry and residence of third-country nationals for the purposes of highly qualified employment, which takes into account the need to attract talent more strongly. (European Parliament and Council of the European Union, 2021) The European Union's migration policy is characterised by a combination of common legislation and national implementation mechanisms, leading to a significant fragmentation of migration regimes between Member States. (European Parliament, 2020; European Migration Network, 2023) Fragmentation is also further exacerbated by Member States' national initiatives, which introduce their own recruitment models. An example is Germany, which is developing elements of a point system inspired by countries such as Canada or Australia. (Thym, 2023)

2 Procedures for the admission of workers from third countries

2.1 The Single Permit System and National Implementations

The concept of a single permit, which combines a residence permit and a work permit into a single administrative act. The aim of this concept is to simplify the whole process for both migrants and employers, while guaranteeing a common set of rights, especially in the areas of working conditions and social security. In practice, this means that the applicant, or the worker himself or the employer acting on his behalf, submits a single application in which both the right of residence and the right to employment are assessed. The result of the procedure is one document that authorizes both residence and work. At the same time, the directive stipulates that a decision should be taken within a reasonable period of time, usually within four months. The holder of a single permit has the right

to equal treatment of nationals of the host state in areas such as working conditions, health and safety at work, access to education and training, recognition of qualifications or access to selected branches of social security. (European Parliament and Council of the European Union, 2011)

The European Commission's evaluation reports show that although the single permit system formally operates in all participating Member States, its actual implementation is very different. In some countries, there is a real so-called one-stop shop, where the applicant communicates with only one authority, but in others, the process remains divided between several institutions, which increases the administrative burden and prolongs the procedure. That is why Directive 2011/98/EU is being revised to strengthen equal treatment, improve mobility within the EU and shorten decision-making deadlines. This confirms that, although this is a step forward compared to older systems, the current model continues to be perceived as insufficiently flexible and too bureaucratic in the context of growing labour market needs. (European Commission, 2020)

2.2 Labor Market Testing and Qualification Requirements

One of the key elements of recruitment procedures in many Member States is the so-called Labour Market Test (LMT), or labour market test, which is designed to verify that it is not possible to find a suitable candidate for a given job from the EU's domestic or wider labour market. According to certain European Migration Network (EMN) questionnaires from 2024, most Member States apply LMT in at least some categories of permits, although the methodology and scope of the test vary significantly. A typical approach is to require the employer to advertise a job in the national employment system for a certain period of time, and only if there is no suitable candidate from among EU citizens, it is possible to recruit a worker from a third country. (European Migration Network, 2024)

In other cases, quantitative indicators are used, such as the unemployment rate in a given occupation or region, or a combination of both approaches. LMT is usually not applied to highly skilled workers' schemes, i.e. the EU Blue Card, so-called Intra-Corporate Transfer Transfers (ICT) and some sectors with long-term and structural labour shortages. In these cases, Member States often establish lists of shortage professions in which the recruitment of workers from third countries is simplified. In addition to LMT, qualification requirements play an essential role. Standard work permits generally require appropriate qualifications and experience, which may be subject to the recognition of diplomas or the verification of certificates. (European Migration Network, 2024)

For highly qualified employment under the EU Blue Card, the basic condition is a university degree or equivalent professional experience, combined with a minimum wage threshold of between 1 and 1.6 times the average annual wage in that country. (European Parliament and Council of the European Union, 2021) In ICT transfers, the emphasis is on managerial or specialized skills and on proving previous employment within a group of companies. Research shows that LMT can in some cases slow down and complicate the recruitment of necessary workers, while its effect on protecting the domestic labour market is at least mixed. That is why several countries are considering its selective release or replacement with more flexible tools, such as updated lists of professions with shortages or point systems. (European Parliament and Council of the European Union, 2014b)

2.3 Permits, Quotas, and Sectoral Ratios

Although the EU harmonises the conditions of entry and residence, the determination of recruitment volumes for workers from third countries remains the full competence of the Member States. This principle is enshrined, for example, in the Seasonal Workers

Directive, which explicitly confirms that Member States are free to determine the numbers of migrants admitted for employment purposes. In practice, some countries directly use quotas that set the maximum number of work permits for a certain period, usually per year, often further dividing them by sectors, such as agriculture, construction or tourism, or by level of qualification. Other countries introduce sectoral limits, for example for seasonal agricultural workers, or use bilateral agreements with specific partner countries where migrant numbers and sectoral preferences are agreed bilaterally. (European Parliament and Council of the European Union, 2014b)

An example is Italy, which in 2025 announced a plan to issue 500,000 work visas to non-EU nationals between 2026 and 2028, with a strong focus on agriculture, construction and other sectors suffering from acute labour shortages. ECDPM research and the Mapping Labour Migration Pathways to EU Member States project have identified around 290 different legal pathways to the EU for third-country workers, many of which have implicit quotas or volume limits, although not always formally enshrined in law. (Reuters, 2025)

2.4 Temporary vs. Permanent Admission

The distinction between temporary and permanent admission is essential not only from a legal point of view, but also from an economic and integration point of view. Temporary schemes, such as programmes for seasonal workers, ICT transfers or stays for students and researchers, are designed to respond to short-term or specific labour market needs. The Seasonal Workers Directive stipulates that Member States must set a maximum length of stay of between five and nine months within a twelve-month period. The ICT regime under There can be an allowance for the temporary transfer of managers, specialists and trainees, generally for one to three years, with the particular advantage being the possibility of intra-EU mobility between branches of the same group of enterprises in different Member States. (European Parliament and Council of the European Union, 2016)

Directive 2016/801 regulates the residence of researchers and students, which is initially temporary, but in many countries opens the door to a subsequent change of status to work and to long-term integration (European Parliament and Council of the European Union, 2014b). On the other hand, there are longer-term statutes. After five years of legal and continuous residence, third-country nationals can acquire EU long-term resident status under Directive 2003/109/EC. This status gives them almost the same treatment as citizens of the host state in key areas, as well as some mobility within the EU. Blue Card holders can also switch to long-term resident status after meeting the conditions, especially in the area of residence and economic activity. (Council of the European Union, 2003)

There is a political debate about the extent to which temporary schemes should be truly circular, i.e. based on the repeated return of seasonal or temporary workers, and to what extent they should provide the possibility of a more permanent establishment in the host country. Research suggests that rigid temporary regimes with no realistic options for moving to long-term residence can lead to abuse and irregular residence if workers remain in the country without a valid status after the expiry of their permit. (Migration Policy Institute Europe, 2017)

3 Blue Card and Migration of Highly Skilled Workers

The EU Blue Card is one of the key tools for attracting highly qualified workers from third countries. However, the original Directive 2009/50/EC was widely criticised for its limited impact and was less attractive compared to the national schemes of several Member States, mainly due to high wage thresholds, limited intra-EU mobility and complex administrative procedures. (Arletti Partners, 2024) For this reason, a new or so-called recast Directive (EU) 2021/1883 was adopted, which fundamentally modified the

Blue Card regime. (European Parliament and Council of the European Union, 2021) The new regulation lowers the wage thresholds and stipulates that the threshold should lie between 1 and 1.6 times the average annual wage, while member states can differentiate the thresholds according to sectors or categories of workers. At the same time, the minimum required length of an employment contract has been reduced to six months and professional experience has been recognised as equivalent to higher education in key sectors, in particular IT. (European Parliament and Council of the European Union, 2021)

Intra-EU mobility has been strengthened. when, after a certain period of residence in one Member State, a Blue Card holder can relatively easily move to work in another Member State. In addition, recast has accelerated access to long-term residence and improved conditions for family reunification. (Arletti Partners, 2024) The European Commission's official communication stresses that the new regime aims to simplify procedures, broaden the scope of eligible persons and strengthen the rights of Blue Card holders and their family members in order to make the EU a more competitive player in the global battle for talent. Nevertheless, research and statistics show that the Blue Card faces several challenges. (European Parliament, 2020)

One of the challenges is the competition between national schemes. Several Member States have built their own permits for highly qualified workers, which are better known in practice and often easier for both employers and migrants. An example is the German reforms under the so-called Fachkräfteeinwanderungsgesetz, which offer alternative pathways for skilled workers outside the Blue Card system. (Thym, 2023) The second challenge is the uneven use of the Blue Card between Member States. While in Germany, France or the Netherlands it is a relatively established tool, in other countries only a very small number of cards are issued. The third challenge is the phenomenon of so-called brain waste. Despite the existence of specialised schemes such as the Blue Card, thousands of highly educated migrants in the EU remain employed below their level of qualification. (Lighthouse Reports, 2023)

The reasons for this are complicated procedures for the recognition of diplomas, lack of language skills or discrimination in the labour market. Several analyses point out that this is a massive underutilization of human capital with financial losses in billions of euros. The recast of the blue card can therefore be seen as a step in the right direction, but it is not enough on its own. An effective high-skilled migration policy must be complemented by a reform of the recognition of qualifications, an active integration policy, better communication towards employers and potential applicants, and better coordination with national permits to avoid overlapping and competing regimes. (CEPR, 2023)

Conclusion

The conditions for the admission of workers from third countries to the European Union are a complex policy area that is closely linked to demographic developments, economic needs and social issues for the integration of migrants. Although the EU has established an extensive legislative framework regulating legal migration, the implementation of the various instruments remains largely in the hands of the Member States, leading to a persistent fragmentation of the system. Despite the existence of a common basis in the form of directives on the single permit, seasonal workers, ICT transfers or the Blue Card, there are significant differences in administrative procedures, the speed of procedures and the application of instruments such as labour market tests or quotas. The analysis shows that legal labour migration can play an important role in addressing labour shortages and boosting economic growth.

While the single permit system has contributed to administrative simplification, its operation remains patchy and still too bureaucratic in many Member States. In the area of high-skilled migration, the modernisation of the Blue Card regime has brought positive changes, but its attractiveness continues to be undermined by competition from national

schemes and the persistent phenomenon of brain waste, which points to a significant underutilisation of migrants' human capital. Temporary migration regimes also remain a challenge, as they often do not sufficiently reflect the need for long-term integration of workers into the labour market. At the same time, a number of structural problems can be identified that reduce the effectiveness of the current system, in particular the administrative complexity of procedures, the fragmentation of migration regimes and the under-utilisation of migrants' qualifications. The EU therefore faces the challenge of aligning migration policy with labour market needs in the context of an ageing population and growing labour shortages.

Without effectively managed legal migration, it will be increasingly difficult to maintain the EU's economic dynamism and competitiveness in the global environment. Future developments in migration policy are likely to lead to greater coordination between Member States, simplification of administrative procedures and strengthening of tools to attract skilled workers. Modernising administrative processes, streamlining the recognition of qualifications and promoting the integration of migrants into the labour market will play a key role in this. The current system provides a solid foundation, but its further development will depend on the removal of remaining barriers and the introduction of more flexible and coordinated solutions that will enable the European Union to respond more effectively to demographic challenges and ensure sustainable economic growth.

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MACROECONOMIC DEVELOPMENT OF SLOVAKIA AND ITS FOREIGN TRADE IN THE CONDITIONS OF A CHANGING INTERNATIONAL ECONOMIC ENVIRONMENT FOR THE ANALYZED PERIOD (2014–2024)[1]

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Abstract: This paper analyses the development of Slovakia's foreign trade in the period 2014–2024, with emphasis on the relationship between exports of goods and imports of goods. The aim of the paper is to determine whether a statistically significant relationship exists between these indicators in the context of Slovakia as a small open economy integrated into European production and trade networks. The study is based on secondary statistical data derived from the Statista report on Slovakia. Descriptive statistics and Spearman's correlation analysis were applied, while data processing was carried out in JAMOVI. The results revealed a very strong positive and statistically significant relationship between exports and imports of goods. The paper contributes to the understanding of foreign trade dynamics in a small open economy and highlights the need to interpret exports and imports as closely interconnected processes.
Keywords: Slovakia; foreign trade; exports; imports; small open economy; trade interdependence
JEL: F14, F41, O11

Introduction

The Slovak Republic represents, in the academic literature, a model example of a small open economy whose macroeconomic trajectory has been fundamentally shaped by integration into the European Union. As emphasized by Heller and Warzala (2019), accession to the EU and the subsequent adoption of the common currency, the euro (2009), transformed Slovakia from a centrally planned production system into a market-oriented economy driven by exports. This integration process served as a strong engine of economic growth and real convergence, supported by access to the single market and the inflow of structural funds. (Stojkov et al., 2024) However, Bąk et al. (2024) point out that although real convergence in GDP per capita has progressed significantly, this process remains incomplete and encounters structural limitations. The export-led growth hypothesis and the dominance of foreign direct investment constitute key determinants of the macroeconomic development and foreign trade performance of the Slovak Republic. Analyses confirm that foreign direct investment is the primary driver

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of export-oriented growth, while multinational corporations use the Slovak Republic as a production centre within Central European supply chains. (Popescu et al., 2024) Although strong integration into European structures and FDI has brought technological modernisation, the absence of a domestic innovation base creates a risk of stagnation. (Habánik et al., 2016) Slovakia's extremely high export intensity, exceeding 86% of GDP, reflects the country's deep integration into European production networks. Cointegration and causality tests demonstrate that exports of industrial production directly determine the expansion of the national economy. (Žídek et al., 2015; Çetin et al., 2018) Analyses also confirm the importance of so-called import-led growth, in which imports of technologies and investment goods serve to increase domestic production capacities. From the perspective of territorial structure, Slovak trade is strongly Eurocentric.

The literature highlights not only intensive political and economic cooperation with Austria (Pawera et al.), but also a growing effort to diversify export markets through deepening trade intensity between countries. Sectoral case studies, for example those focused on the wood-processing industry, show that one-sided exports of raw materials (such as raw wood) have a genuinely negative impact on the domestic economy, as they reduce the availability of inputs for domestic processing with higher added value. (Sujová et al., 2016) By contrast, sectors with high added value display significantly greater resilience to external fluctuations in foreign trade. (Marcineková et al., 2023) According to the findings, not only trade activity itself but also the ability to generate a surplus is crucial for economic performance – net exports stimulate economic growth especially when the growth dynamics of exports exceed those of imports over the long term. (Sujová et al., 2021) These structural limitations, combined with low expenditure on research and development, directly constrain the potential for sustainable GDP growth. (Pilinkiene, 2016) The high degree of openness and trade concentration (especially toward Germany and the other V4 countries) make the Slovak economy asymmetrically vulnerable to exogenous shocks. Strongly pro-export-oriented economies face more pronounced negative impacts during global economic fluctuations. (Krkošková, 2021) In the analysed period (2014–2024), this vulnerability became fully apparent during the COVID-19 pandemic and the subsequent geopolitical conflicts, which disrupted the stability of supply chains and intensified price pressures across the European area. (OECD, 2024; ECB, 2024) Changes in the geographical orientation of trade and increasing geoeconomic fragmentation also confirm that trade flows are increasingly shaped not only by economic efficiency, but also by geopolitical factors. (Qiu et al., 2024; IMF, 2024) Therefore, in order to maintain macroeconomic stability and a positive trade balance in the future, it will be crucial for Slovakia to overcome persistent institutional constraints, mitigate regional disparities, and strategically diversify its trade partnerships under conditions of ongoing climate and technological transformation. (OECD, 2024)

The aim of this paper is to analyse the development of Slovakia's foreign trade in the period 2014–2024, with particular emphasis on the relationship between exports of goods and imports of goods. The paper is based on secondary statistical data obtained from the Statista report on Slovakia. Descriptive statistics and Spearman's correlation analysis were applied, while the data were processed in the JAMOVI software environment and visualised in Microsoft Excel.

1 Methodology

This paper focuses on analysing the development of Slovakia's foreign trade in the period 2014–2024, with particular emphasis on the relationship between exports of goods and imports of goods. The main objective of the research is to identify whether there is a statistically significant relationship between these two indicators and thereby assess the degree of interdependence between the main components of Slovakia's foreign trade. The analysis is

based on secondary statistical data obtained from the report *Slovakia* published in the Statista database. The report contains time series data on the development of the Slovak economy, public finances, the labour market, and international trade, while aggregating data from institutions such as the IMF, World Bank, WTO, CIA, and Statista.

For the purposes of this paper, data on imports of goods to Slovakia, exports of goods from Slovakia, and the trade balance of goods for the period 2014–2024 were used. In addition, real GDP growth was included as a supplementary macroeconomic indicator in order to provide a broader economic context for the analysed period.

The following variables were included in the analysis:

- value of imports of goods (in billion USD)
- value of exports of goods (in billion USD)
- trade balance of goods (in billion USD)
- real GDP growth (%)

Methods of descriptive and inferential statistics were applied in the data processing. Within descriptive statistics, the basic statistical characteristics of the observed variables were calculated, namely the arithmetic mean, median, standard deviation, minimum, maximum, and year-on-year changes. Line graphs and time series were used to illustrate the development of individual indicators over time. Inferential statistical methods were employed to verify the statistical significance of the relationship between exports of goods and imports of goods in Slovakia in the period 2014–2024. Before the application of the statistical tests, the normality of data distribution was examined using the Shapiro–Wilk test. If the assumption of normal distribution was met, Pearson's correlation coefficient was applied; otherwise, a non-parametric alternative in the form of Spearman's correlation coefficient was used. Since the distribution of one of the variables did not meet the assumption of normality, Spearman's correlation analysis was considered the more appropriate method for testing the research hypotheses. Statistical data processing was carried out in the JAMOVI software environment, while the visualisation of results was prepared in Microsoft Excel.

Research Assumption

It is assumed that there is a statistically significant relationship between the development of exports of goods and imports of goods in Slovakia during the analysed period, reflecting the high degree of interdependence between the main components of the country's foreign trade.

Research Question

What is the relationship between the development of exports of goods and imports of goods in Slovakia in the period 2014–2024?

In relation to the research question, the following research hypotheses were formulated:
H_0: There is no statistically significant relationship between the development of exports of goods and the development of imports of goods in Slovakia in the period 2014–2024
H_1: There is statistically significant relationship between the development of exports of goods and the development of imports of goods in Slovakia in the period 2014–2024.

2 Results

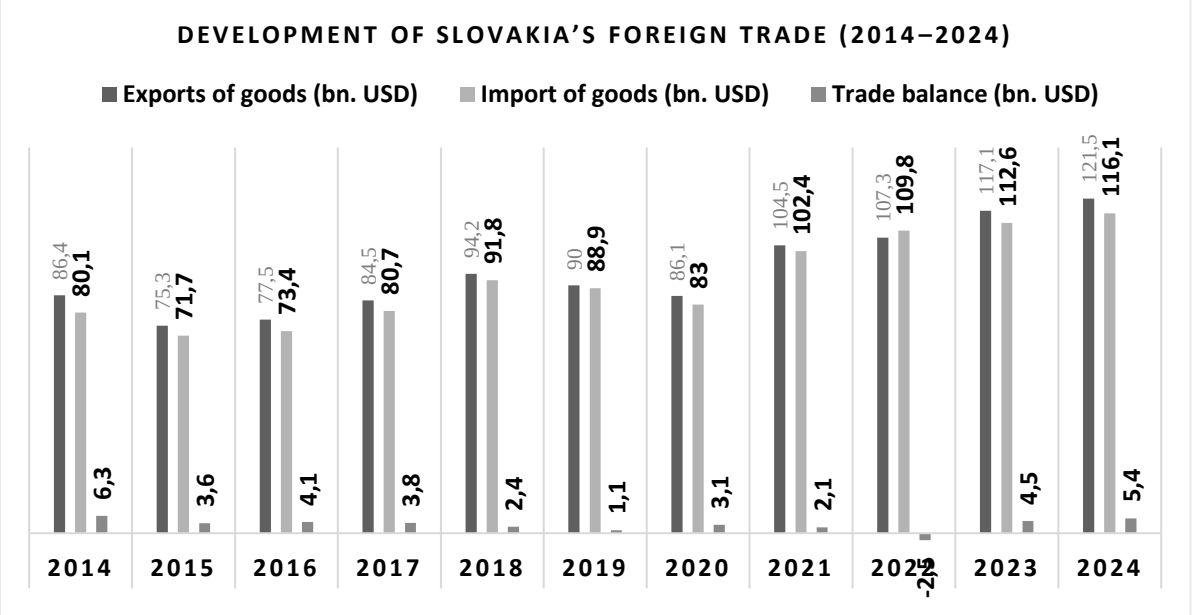
We formulated one research question and two research hypotheses, which are empirically tested in this paper. In the following part of the partial analysis and conclusion-building process related to hypothesis testing, each variable was examined by means of descriptive statistics and correlation analysis.

Table 1: Development of selected foreign trade indicators and real GDP growth in Slovakia in 2014–2024

Year	*Exports of goods (bn. USD)*	*Imports of goods (bn. USD)*	*Trade balance (bn. USD)*	*Real GDP growth (%)*
2014	86,4	80,1	6,3	2,5
2015	75,3	71,7	3,6	3,9
2016	77,5	73,4	4,1	3,3
2017	84,5	80,7	3,8	3,1
2018	94,2	91,8	2,4	4
2019	90	88,9	1,1	2,5
2020	86,1	83	3,1	-3,3
2021	104,5	102,4	2,1	3
2022	107,3	109,8	-2,5	1,7
2023	117,1	112,6	4,5	1,1
2024	121,5	116,1	5,4	2

Source: own processing based on the Statista report for the Slovak Republic, 2025.

Figure 1: Development of exports of goods, imports of goods, and the trade balance of Slovakia in 2014–2024



Source*:* own processing based on the Statista report for the Slovak Republic, 2025.

Table 1 presents the development of selected foreign trade indicators of Slovakia and real GDP growth in the period 2014–2024. Specifically, it captures the value of exports of goods, imports of goods, the trade balance, and real GDP growth. The data show that, during the analysed period, exports of goods followed a predominantly upward trend, increasing from USD 86.4 billion in 2014 to USD 121.5 billion in 2024. A similar development can also be observed in imports of goods, which rose from USD 80.1 billion to USD 116.1 billion. These results indicate a gradual increase in the volume of Slovakia's foreign trade flows, although slight fluctuations were recorded in some individual years. The trade balance was positive in most of the analysed years, meaning that the value of exports exceeded the value of imports. An exception was the year 2022, when the trade balance reached a negative value of USD -2.5 billion. The highest trade surplus was recorded in 2014 at USD 6.3 billion, while in 2024 the

trade balance reached USD 5.4 billion. The development of the trade balance therefore points to Slovakia's relatively favourable position in foreign trade, despite temporary deterioration in some years. Real GDP growth showed a fluctuating pattern during the analysed period. The highest value was recorded in 2018, when real GDP growth reached 4.0%, while the most significant decline occurred in 2020, when real GDP fell by 3.3%. This adverse development may be associated with the effects of the COVID-19 pandemic. In the following years, economic growth recovered, although its dynamics remained lower and less stable.

Figure 1 visualises the development of exports of goods, imports of goods, and the trade balance of Slovakia in the years 2014–2024. The graphical representation confirms that exports and imports developed in a similar direction during the analysed period and showed a high degree of mutual interdependence. At the beginning of the analysed period, in the years 2014 to 2016, the values of both exports and imports were lower, while exports maintained a slight lead over imports. In the years 2017 to 2019, a gradual increase in both indicators can be observed, although with a slight decline in the trade balance. In 2020, both exports and imports decreased, reflecting the negative impact of the pandemic on international trade and economic activity. From 2021 onwards, foreign trade began to recover, with both exports and imports increasing more significantly. In 2022, however, imports exceeded exports, which resulted in a negative trade balance.

In the following years, the situation stabilised again, and in 2023 and 2024 Slovakia recorded a positive trade balance once more. The figure therefore clearly shows that the development of exports and imports was very similar during the analysed period, while the difference between them determined the level of the trade balance.

Table 2: Descriptive statistics of selected foreign trade indicators of Slovakia and real GDP growth for the period 2014–2024

Metrics	*Exports of goods (bn. USD)*	*Imports of goods (bn. USD)*	*Trade balance (bn. USD)*	*Real GDP growth (%)*
N	11	11	11	11
Mean	94.9	91.9	3.8	2.16
Median	90.0	88.9	3.60	2.50
Standard deviation	15.5	16.0	2.37	2.2
Minimum	75.3	71.7	-2.50	-3.30
Maximum	122	116	6.30	4.00
Shapiro-Wilk W	0.928	0.915	0.922	0.762
Shapiro-Wilk p	0.387	0.282	0.331	0.003

Source: own processing based on the Statista report for the Slovak Republic, 2025.

Table 2 presents the results of descriptive statistics for selected foreign trade indicators of Slovakia and real GDP growth for the period 2014–2024. For all analysed variables, 11 observations without missing values were processed, which creates a consistent basis for subsequent statistical analysis. The average value of exports of goods reached USD 94.9 billion, while the median was USD 90.0 billion. During the analysed period, the values of exports ranged from USD 75.3 billion to USD 122 billion, indicating an upward trend despite certain fluctuations. For imports of goods, the average value was USD 91.9 billion and the median was USD 88.9 billion. The minimum value of imports reached USD 71.7 billion and the maximum USD 116 billion. The standard deviation for both exports and imports indicates a relatively similar degree of variability of the two indicators, which at the same time confirms their mutual

dynamic interdependence. The trade balance reached an average value of USD 3.8 billion during the analysed period, with a median of USD 3.60 billion. Its minimum value was USD -2.50 billion and its maximum was USD 6.30 billion, which indicates that Slovakia recorded both years with a trade deficit and years with a trade surplus during the analysed period. Despite these fluctuations, however, the average value of the trade balance remained positive. The average real GDP growth reached 2.16%, while the median was 2.50%. The minimum value was -3.30% and the maximum was 4.00%, reflecting differences in Slovakia's economic performance across individual years. The negative minimum value also indicates that adverse economic influences affected the analysed period.

The results of the Shapiro–Wilk test showed that the variables exports of goods, imports of goods, and trade balance met the assumption of normal distribution, as their p-values were higher than the significance level of 0.05. In contrast, normality was not confirmed for the variable real GDP growth ($p = 0.003$). For this reason, Spearman's correlation coefficient was used in the subsequent analysis of relationships between the variables as an appropriate non-parametric statistical tool.

Table 3: Results of Spearman's correlation analysis between selected foreign trade indicators of Slovakia and real GDP growth for the period 2014–2024

Indicator	*Statistical measure*	*Exports of goods (USD bn)*	*Imports of goods (USD bn)*	*Trade balance (USD bn)*	*Real GDP growth (%)*
Export tovarov (mld. USD)	Spearman's rho	—			
	df	—			
	p-value	—			
Import tovarov (mld. USD)	Spearman's rho	0.973	—		
	df	9	—		
	p-value	<.001	—		
Obchodná bilancia (mld. USD)	Spearman's rho	-0.045	-0.136	—	
	df	9	9	—	
	p-value	0.903	0.694	—	
Rast reálneho HDP (%)	Spearman's rho	-0.506	-0.524	-0.050	—
	df	9	9	9	—
	p-value	0.113	0.098	0.884	—

Source: own processing based on the Statista report for the Slovak Republic, 2025.

Table 3 presents the results of Spearman's correlation analysis between selected foreign trade indicators of Slovakia and real GDP growth for the period 2014–2024. The aim of the analysis was to identify the strength, direction, and statistical significance of the relationships between the individual variables. The results showed a very strong positive and statistically significant relationship between exports of goods and imports of goods, with Spearman's correlation coefficient reaching 0.973 at a significance level of $p < 0.001$. This result suggests that, during the analysed period, the growth of exports was accompanied by growth in imports, indicating a high degree of interdependence between the main components of Slovakia's foreign trade. By contrast, no statistically significant relationship was found between the trade balance and exports, as the value of the correlation coefficient was -0.045 at $p = 0.903$. Likewise, no statistically significant relationship was confirmed between the trade balance and imports, where Spearman's coefficient reached -0.136 at $p = 0.694$. These results indicate that, during the analysed period, the trade balance was not clearly linked either to the development of exports or to the development of imports when considered separately. With regard to real

GDP growth, moderately strong negative correlations were identified with both exports and imports, though without statistical significance. The correlation coefficient between exports and real GDP growth was -0.506 at p = 0.113, while the coefficient between imports and real GDP growth was -0.524 at p = 0.098. Although these results suggest a certain negative relationship, they cannot be considered statistically confirmed from the perspective of statistical testing. The weakest relationship was recorded between the trade balance and real GDP growth, where Spearman's correlation coefficient reached -0.050 at p = 0.884. In this case, it is therefore not possible to speak of a statistically significant relationship.

Based on the above results, it can be concluded that, during the analysed period, only the statistically significant and very strong positive relationship between exports of goods and imports of goods was confirmed. The other examined relationships were not statistically significant.

3 Discussion

The results of the analysis of Slovakia's foreign trade indicators and selected macroeconomic variables for the period 2014–2024 largely confirm the theoretical assumptions related to the functioning of a small and highly open economy. In line with the arguments of Heller and Warzala (2019) and Stojkov et al. (2024), Slovakia's economic development remains closely linked to its integration into the European Union, export orientation, and participation in European production and supply networks. The empirical findings of this paper specifically confirmed a very strong positive and statistically significant relationship between exports of goods and imports of goods. This result indicates that the development of Slovakia's foreign trade was characterised by a high degree of interdependence between its main components, which is consistent with the theoretical view that export performance in small open economies is closely connected with import intensity. This finding also supports the arguments of Popescu et al. (2024), who emphasise the role of foreign direct investment and multinational corporations in shaping Slovakia as a production centre within Central European supply chains. If a substantial part of production is integrated into internationally fragmented manufacturing structures, it is natural that export growth is accompanied by growth in imports, especially in the form of imported intermediate goods, technologies, and capital equipment. In this sense, the empirical results correspond with the concept of import-led growth, according to which imports do not only satisfy domestic demand but also expand domestic production capacities and support subsequent exports. The strong relationship identified between exports and imports therefore reflects the structural nature of Slovakia's trade model rather than a purely coincidental co-movement of the two indicators.

At the same time, however, the results do not confirm all of the broader assumptions associated with export-led growth. Although the literature represented by Žídek et al. (2015) and Çetin et al. (2018) points to the importance of industrial exports as a determinant of economic expansion, this paper did not confirm a statistically significant relationship between foreign trade indicators and real GDP growth. While moderately strong negative correlations were observed between exports and real GDP growth, as well as between imports and real GDP growth, these relationships were not statistically significant.

This suggests that, in the analysed period, the growth of trade flows cannot be interpreted as a statistically confirmed driver of real GDP growth. From this perspective, the findings imply that high trade intensity alone does not automatically translate into stable macroeconomic performance.

This conclusion can be linked to the structural limitations highlighted in the theoretical part of the paper. Bąk et al. (2024) argue that Slovakia's real convergence process remains incomplete and constrained by structural barriers. Similarly, Habánik et al. (2016) warn that integration into European structures and the inflow of FDI may bring technological

modernisation, but without a sufficiently developed domestic innovation base, the economy may face the risk of stagnation. The results of this study are consistent with these arguments, as they reveal a strong trade interdependence without confirming a statistically significant link between trade development and real GDP growth. This may indicate that Slovakia's foreign trade performance is still based to a considerable extent on production with lower domestic added value and a high dependence on imported inputs. A similar interpretation is supported by Pilinkiene (2016), who emphasises that structural limitations and low expenditure on research and development reduce the potential for sustainable GDP growth. In this context, the strong relationship between exports and imports identified in this paper may also be seen as a manifestation of Slovakia's dependence on external production inputs rather than as clear evidence of internally generated economic strength. This interpretation is in line with the findings of Sujová et al. (2016), who point out that one-sided exports of raw materials may weaken domestic processing activities with higher added value, as well as with Marcineková et al. (2023), who emphasise that sectors with higher added value are more resilient to external trade fluctuations. The discussion of the results must also take into account the macroeconomic vulnerability of Slovakia. According to Krkošková (2021), strongly export-oriented economies are more exposed to negative external shocks during periods of global instability. In the analysed period, this vulnerability became particularly visible during the COVID-19 pandemic and the subsequent geopolitical and energy shocks, which disrupted supply chains and intensified price pressures across Europe (OECD, 2024; ECB, 2024). The decline in real GDP growth in 2020 and the deterioration of the trade balance in 2022 illustrate that Slovakia's trade performance remains highly sensitive to external disturbances. In this regard, the results of this paper correspond with the warnings of Qiu et al. (2024) and the IMF (2024), who stress that trade flows are increasingly shaped not only by economic efficiency but also by geopolitical fragmentation. The development of the trade balance also deserves attention. Although Slovakia recorded a positive trade balance in most of the analysed years, the temporary deficit in 2022 demonstrated that its relatively favourable foreign trade position cannot be considered automatic or fully stable. The fact that no statistically significant relationship was found between the trade balance and exports or imports taken separately suggests that the balance is influenced by a broader set of factors, including price shocks, changing external demand, and the structure of traded goods. Therefore, the long-term sustainability of Slovakia's foreign trade performance depends not only on trade volumes, but also on the qualitative structure of exports and imports and on the country's ability to increase domestic value added.

Overall, the findings of this paper confirm that Slovakia remains a highly open economy with a strongly interconnected export-import structure, but also one that is burdened by significant structural vulnerabilities. The pro-export model and European integration have generated substantial growth opportunities over the past decade, yet they have also exposed the economy to a high degree of external dependence. In the context of ongoing climate, technological, and geopolitical transformation, the key challenge for Slovakia will be to overcome these structural limitations, strengthen domestic innovation capacity, and diversify its trade relations more strategically. Only such a shift can contribute to improving the long-term macroeconomic stability and competitiveness of the Slovak economy.

Conclusion

Verification of Research Hypotheses and Answer to the Research Question

Based on the conducted Spearman's correlation analysis, the following can be concluded:

H_0 is rejected – there is no statistically significant relationship between the development of exports of goods and the development of imports of goods in Slovakia in the period 2014–2024

H_1 is accepted – there is a statistically significant relationship between the development of exports of goods and the development of imports of goods in Slovakia in the period 2014–2024

Based on the statistical analysis, the research question can be answered as follows: *What is the relationship between the development of exports of goods and imports of goods in Slovakia in the period 2014–2024?*

The results of Spearman's correlation analysis indicate that there is a very strong positive and statistically significant relationship between the development of exports of goods and imports of goods in Slovakia in the period 2014–2024. The correlation analysis reached a Spearman's correlation coefficient of $\rho = 0.973$ at a significance level of $p < 0.001$, which points to a very strong relationship between the examined variables. This value suggests that changes in exports were closely accompanied by changes in imports during the analysed period.The obtained results also confirm that Slovakia's foreign trade is characterised by a high degree of internal interconnectedness between its main components. The growth of exports did not occur in isolation, but was accompanied by parallel growth in imports, which may be related to the openness of the Slovak economy, its integration into international supply chains, and the high import intensity of export production. These findings are also supported by the results of descriptive statistics, which showed a relatively similar development of both indicators during the analysed period. The average value of exports of goods reached USD 94.9 billion, while the average value of imports amounted to USD 91.9 billion. A similar level of variability of both variables, expressed by the standard deviation, also supports the conclusion about their mutual dynamic interdependence. Based on these results, the research question may therefore be answered by stating that there is a very strong, positive, and statistically significant relationship between the development of exports of goods and imports of goods in Slovakia in the period 2014–2024. This conclusion confirms that the development of exports and imports was closely interconnected during the analysed period.

The findings indicate that Slovakia's foreign trade in the analysed period was characterised by a strong mutual interdependence between exports and imports. This interdependence reflects the high openness of the Slovak economy and its strong integration into international trade and production linkages. At the same time, the results suggest that the interpretation of Slovakia's foreign trade development should take into account not only the separate evolution of exports and imports, but also their mutual dynamics and structural conditionality. Scope for further research opens particularly in the area of extending the analysed set of variables by additional macroeconomic and structural indicators, such as industrial production, exchange rate movements, inflation, foreign direct investment, or the territorial structure of foreign trade. Future research could also focus on a longer time period or on a comparison of Slovakia with other Central European countries.

Research Limitations

Although the paper provides relevant insights into the development of selected foreign trade indicators of Slovakia in the period 2014–2024, its results should be interpreted with regard to several research limitations.

1. The analyses in based on secondary statistical data
   The data were obtained from databases and processed reports. Although these sources provide relevant and internationally comparable data, their aggregated nature does not make it possible to capture more detailed structural specifics of Slovakia's foreign trade, for example by sectors, commodity groups, or trading partners.
2. The selection of analysed variables was intentionally limited to exports of goods, imports of goods, the trade balance, and real GDP growth

This approach made it possible to create a clear analytical framework; however, it also means that other factors that may influence the development of foreign trade were not included in the analysis, such as inflation, the exchange rate, foreign direct investment, industrial production, or changes in external demand.

3. The research was conducted on a relatively short time series
   The limited number of observations may have affected the statistical power of the applied tests and reduced the possibility of capturing more subtle or longer-term relationships between the examined variables.
4. The analysed period also includes years affected by extraordinary external shocks
   The COVID-19 pandemic, the energy crisis, and disruptions in global supply chains may have significantly distorted the development of the analysed indicators and influenced the results of the correlation analysis.
5. The applied correlation analysis makes it possible to identify the existence and direction of relationships between variables, but it does not allow causal relationships to be confirmed
   The identified results therefore cannot be interpreted as evidence of a cause-and-effect influence of one variable on another, but only as an expression of their mutual statistical interdependence.

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TRANSPOSITION OF THE WHISTLEBLOWER DIRECTIVE IN EU MEMBER STATES

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Abstract: This paper examines the transposition of Directive (EU) 2019/1937 on the protection of persons who report breaches of Union law across European union member states. Firstly, it analyses the Directive's legal framework. Secondly, it focuses on the challenges related to delayed and inconsistent transposition. Despite the Directive having been formally transposed across the European Union, the paper concludes that significant differences remain in the effectiveness of whistleblower protection systems.
Keywords: European Union, Whistleblower Directive, transposition
JEL: K39

Introduction

Prior to 2019, the level of protection for whistleblowers within the European Union (EU) was widely considered to be inadequate, with substantial disparities between member states contributing to legal uncertainty and unequal treatment. In response to these shortcomings, on 23 October 2019, the EU adopted Directive (EU) 2019/1937 of the European Parliament and of the Council on the protection of persons who report breaches of Union law (the Whistleblower Directive/ Directive). This directive requires all EU member states to establish minimum standards to protect people who report such breaches. All EU member states were required to transpose the Whistleblower Directive into their national legislation by 17 December 2021 (with some flexibility for smaller companies until 2023) (Directive (EU) 2019/1937, Article 26). Overall, there was a significant delay in transposing the Directive into national legislation across the member states.

This paper aims to analyse the content and circumstances surrounding the transposition of the Whistleblower Directive. The research method applied is qualitative, drawing on data sources obtained from official websites, in particular legislation, case-law, and official reports.

1 Legal framework under the Whistleblower Directive

Whistleblowing is widely regarded as one of the most effective mechanisms for detecting corruption and other forms of wrongdoing. The Directive was introduced to address discrepancies in the protection of whistleblowers across EU countries, which varied widely before its adoption. All member states are now required to comply with the Directive's minimum standards, although some have chosen to implement more stringent rules.

According to Article 1, the primary objective of the Whistleblower Directive is not merely to protect whistleblowers and their right to freedom of expression, but rather to "enhance the enforcement of Union law and policies". (European Parliamentary Research Service, 2024, p. 3)

The Directive establishes a material scope limited to specific policy areas, while providing a broad personal scope, i.e. defining who is covered by its provisions.

Article 2 defines the material scope of this Directive, which applies to reports of the following breaches of EU law:

– breaches in public procurement; financial services, products and parkets, prevention of money laundering and terrorist financing; product safety and complience; transport safety;

protection of the environment; radiation protection and nuclear safety; food and feed safety, animal health and welfare; public health; consumer protection; protection of privacy and personal data, and security of network and information systems;

- breaches harming the EU's financial interests;
- breaches relating to the internal market, including breaches of EU competition and state aid rules, as well as breaches relating to the internal market in relation to acts which breach the rules of corporate tax or to arrangements the purpose of which is to obtain a tax advantage that defeats the object or purpose of the applicable corporate tax law.

Articles 5(1) and 5(2) lay down the types of "breaches". "Breaches" means acts or omissions that: are unlawful and relate to the Union acts and areas falling within the material scope od the Directive; or defeat the object or the purpose of the rules in the EU acts and areas falling within the material scope of the Directive. Accordingly, breaches of purely domestic laws and policies fall outside the scope of the Directive. (European Parliamentary Research Service, 2024, p. 7)

The personal scope in Article 4 of the Directive aims to ensurethat protection is granted to the broadest range of reporting persons working in the private or public sector who have privileged access to information on breaches, by virtue of their work-related activities, and who may suffer retaliation if they report such information (European Commission, 2024, p. 4). This includes workers, self-employed service providers, shareholders and persons belonging to the administrative, management or supervisory body of an undertaking, volunteers and paid or unpaid trainees; persons whose employment relationship has ended or is yet to begin. This protection also extends to facilitators, third persons connected with the reporting persons or legal entities that the reporting persons own, work for or are otherwise connected with in a work-related context.

Article 6(1) establishes the conditions under which reporting persons are entitled to protection, including the requirement that they had reasonable grounds to believe that the information was true at the time of reporting. Consequently, protection is not forfeited where inaccurate information is reported in good faith as a result of an honest mistake, and the motives of the reporting person are not determinative (European Commission, 2024, p. 5). Pursuant to Article 6(2), the Directive leaves it to the discretion of member states to determine whether legal entities in the private and public sectors, as well as competent authorities, are required to accept and act upon anonymous reports.

Reporting persons shall qualify for protection under this Directive if they report within the three-tier reporting system, either internally (Articles 7–9), externally (Articles 10–14) or via a public disclosure (Article 15). Articles 7(1) and 7(2) establish the principle that reporting persons are free to choose whether to report internally or externally first.

Internal reporting takes place within an organisation. Article 8 of the Directive defines the legal entities in the private and public sectors that are required to set up channels and procedures for internal reporting. Article 8(3) requires all private-sector legal entities with 50 or more employees to set up internal channels. Article 8(6) permits private legal entities with 50–249 employees to share resources for receiving reports and conducting investigations, with the aim of alleviating the burden on these entities.

For the purposes of external reporting, Article 11 sets out the obligation for member states to designate public authorities that are competent to receive reports, provide feedback on them and follow up on them. These authorities must be provided with adequate resources.

Public disclosure (e.g. to the media) is protected under Article 15, provided that specific conditions are met. These include cases where prior internal or external reporting did not lead to appropriate action within the prescribed timeframe. Disclosure is also permitted if there are reasonable grounds to believe that the breach poses an imminent or serious risk to the public interest, or if external reporting may result in retaliation or be ineffective.

Article 16 sets out the confidentiality requirements that apply to internal and external reporting procedures, with the aim of protecting the identity of those who report. Member states must ensure that the identity of the reporting person is not disclosed to anyone other than authorised staff responsible for receiving and following up on reports, without that person's explicit consent. The Directive also sets out the limited conditions under which exceptions to the duty of confidentiality may be permitted. These include cases where it is a necessary and proportionate obligation under EU or national law in the context of investigations by authorities or judicial proceedings, particularly to safeguard the rights of defence of the persons concerned.

Articles 19-23 establish the protection and support measures applicable to the persons referred to in Article 4, as well as to those affected by reports or public disclosures. Article 19 obliges member states to prohibit all forms of retaliation against persons protected under the Directive, including threats and attempts of retaliation. It also provides a non-exhaustive list of prohibited measures, including dismissal, demotion, disciplinary sanctions, harassment, discrimination, blacklisting, and reputational or financial harm. Article 20 requires member states to ensure access to support measures, including comprehensive and independent information and advice provided free of charge, effective assistance from competent authorities, and access to legal aid. Article 21 establishes measures aimed at protection against retaliation, including exemptions from liability and the reversal of the burden of proof, as well as remedial measures, including interim relief and compensation. Under Article 22, the reporting person shall enjoy the right to an effective remedy, a fair trial, the presumption of innocence, and the rights of defence.

Article 23 requires member states to establish effective, proportionate, and dissuasive penalties for persons who obstruct or attempt to obstruct reporting, engage in retaliation or vexatious proceedings against protected persons, breach confidentiality obligations concerning the identity of reporting persons, or knowingly report or publicly disclose false information.

2 Challenges in transposing the Whistleblower Directive

Although the Directive appears relatively clear in its formulation, its transposition into national law has proven complex across the EU. A number of challenges have emerged during this process.

There were problems with missed deadlines and an uneven rollout. This resulted in a fragmented regulatory landscape, with the level of protection for whistleblowers varying considerably from one member state to another.

By the Directive's transposition deadline of 17 December 2021, only 3 member states had adopted and notified full transposition measures (Malta, Portugal, Sweden). A further 8 member states (Cyprus, Denmark, France, Croatia, Ireland, Lithuania, Latvia, Romania) notified full transposition in 2022. This was followed by a further 13 member states (Austria, Bulgaria, the Czech Republic, Germany, Greece, Spain, Italy, Finland, Hungary, Luxembourg, the Netherlands, Slovenia and Slovakia) in 2023. (European Commission, 2024, p. 2)

To ensure compliance with the Directive, the European Commission (Commission) launched infringement proceedings in January 2022 against 24 member states (all member states, with the exception of Malta, Portugal, and Sweden) that had failed to transpose it and notify the complete transposition measures. In March 2023, the Commission referred 6 member states (the Czech Republic, Germany, Estonia, Luxembourg, Hungary and Poland) to the Court of Justice of the European Union (CJEU) (European Commission, 2024, p. 2), requesting financial penalties to be imposed under the Treaty on the Functioning of the European Union (TFEU) (European Union, 2016, Article 260(3)). Between 2024 and 2025, the CJEU delivered 6 judgements and imposed financial penalties in the following cases: C-147/23 – Commission v Poland; C-149/23 – Commission v Germany; C-150/23 – Commission v Luxembourg; C-152/23 – Commission v the Czech Republic; C-154/23 – Commission v Estonia; and C-155/23

– Commission v Hungary. The CJEU reiterated its established case law that a member state cannot use provisions, practices or circumstances within its domestic legal system to justify failing to comply with EU law obligations, including failing to transpose a Directive by the deadline (Court of Justice of the European Union, 2024, para. 33; Court of Justice of the European Union, 2025a, para. 49). Based on this, the CJEU sanctioned member states for failing to transpose the Directive. Germany was ordered to pay a lump sum of €34 million (Court of Justice of the European Union, 2025a); Luxembourg €375,000 (Court of Justice of the European Union, 2025b); the Czech Republic €2.3 million (Court of Justice of the European Union, 2025c); and Hungary €1.75 million (Court of Justice of the European Union, 2025e). However, in the case of Estonia, the CJEU imposed a lump sum of €500,000, as well as a daily penalty of €1,500, to reflect the ongoing nature of the infringement (Court of Justice of the European Union, 2025d). Poland was ordered to pay a lump sum of €7 million, in addition to a daily penalty of €40,000. (Court of Justice of the European Union, 2024)

On 3 July 2024, the Commission adopted a report assessing the transposition of the Whistleblower Directive. The report examines the extent to which member states' implementing measures comply with the Directive's requirements and identifies key shortcomings in national transposition (European Commission, 2024). Reports evaluating the situation have also been published by the European Parliament (European Parliamentary Research Service, 2024) and Transparency International. (Transparency International, 2026)

A problematic issue is the restrictive transposition of the Directive, which narrows its scope too much. For instance, several member states have adopted a restrictive approach to transposing the definition of "breaches" under Article 5(1), notably by omitting conduct that undermines the purpose or objective of the relevant rules, including instances of legal abuse. Furthermore, they have failed to transpose key elements of the definition of "information on breaches" under Article 5(2), such as "reasonable suspicions", breaches that are "very likely to occur" or "attempts to conceal" breaches. This narrows the scope of information that can be reported. (European Commission, 2024, p. 2-3)

Implementing the Directive has placed a significant administrative and operational burden on small and medium-sized enterprises or smaller public bodies. Despite extended deadlines being provided for smaller entities, common challenges include limited independence, insufficient institutional capacity, weak confidentiality safeguards, and low levels of trust in reporting mechanisms. In practice, this often results in mere formal compliance and the ineffectiveness of the whistleblowing system. (Transparency International, 2026, p. 27-28)

The Directive does not require the designation of a single authority to oversee or enforce whistleblower laws. Instead, it requires member states to designate competent authorities to receive and handle external whistleblowing reports, and it encourages the provision of support measures through an information centre or a single independent administrative authority. Member states operate highly diverse institutional models: some have established new, dedicated whistleblowing authorities (Greece, Ireland, Luxembourg, Slovakia and Spain), while others have assigned responsibilities to existing bodies (Transparency International, 2026, p. 13). In some member states, the authorities responsible for receiving external reports do not meet the expectations set out in the Directive in terms of independence, human and financial resources or expertise. These shortcomings reduce the effectiveness of external reporting mechanisms and may undermine trust in the entire whistleblower protection system.

As the Directive itself does not make anonymous reporting mandatory, inconsistencies have emerged. Around half of the transposition laws regulate anonymous reports. Most of these laws impose an obligation on competent authorities, or on all legal entities operating reporting channels, to accept and follow up on anonymous reports. (European Commission, 2024, p. 6)

In systems where anonymity is not supported, concerns about potential identification may prevent individuals from reporting.

Although the Directive explicitly prohibits retaliation, its transposition into national legal frameworks is not always fully effective in practice, resulting in uneven levels of protection. In addition, enforcement mechanisms are often underdeveloped, and access to effective remedies or adequate compensation is not always ensured. In some member states, interim relief is not provided and compensation is limited to monetary damages. Remedial measures are also not available to all those who should be entitled to them. (European Commission, 2024, p. 7-8)

Penalties differ significantly across member states and are frequently set at levels that are too low or are applied only infrequently, thereby limiting their overall deterrent effect. (Transparency International, 2026, p. 25-26)

At the same time, several member states have already begun revising their national frameworks following the initial transposition, including Bulgaria, Greece, Ireland, Latvia and Romania. Others, such as Belgium, Slovakia and the Netherlands, are currently considering further reforms. These amendments have been prompted by feedback from the Commission or are tied to conditions attached to EU Recovery and Resilience funding. (Transparency International, 2026, p. 5)

Slovakia is actually a good example of how transposition of the EU whistleblower rules can be legally completed but still problematic in practice. The country had already established a whistleblower protection framework prior to the adoption of the Directive, primarily through Act No. 54/2019 Coll. on the protection of persons reporting anti-social activities, adopted on 30 January 2019 (Zákon č. 54/2019 Z. z.). Despite its early start in developing whistleblower protection mechanisms, Slovakia failed to transpose the Directive within the prescribed timeframe. On 10 May 2023, Slovakia adopted an Act No. 189/2023 amending the existing Whistleblower Act, thereby aligning national legislation with the requirements of the EU Whistleblower Directive. The law came into force on 1 July 2023. This amendment introduces several changes, including the expansion of the category of reporting persons eligible for protection and the imposition of stricter penalties for various violations of the law. More recent reforms have raised concerns of a political rather than technical nature. Legislative and institutional changes introduced in 2025, including proposals affecting the structure and independence of the Office for Whistleblower Protection, have been criticised for potentially increasing political influence over the system. Overall, Slovakia's implementation of the Directive has had a dual outcome: while it has been formally transposed since 2023, the practical effectiveness, legal clarity and institutional independence of the whistleblowing framework remain subject to ongoing debate.

While it is still too early to assess the long-term effectiveness of the Directive comprehensively, the shortcomings in whistleblower protection across the EU are primarily due to incomplete or incorrect transposition of the Directive, combined with deficiencies in its practical implementation and enforcement (Transparency International, 2026, p. 5). Furthermore, legislation on whistleblower protection alone cannot ensure effective protection unless supported by a functioning judicial system. (European Parliamentary Research Service, 2024, p. 10)

Conclusion

The transposition of the EU Whistleblower Directive across the EU was frequently delayed, uneven, and inconsistent. The Commission was obliged to open infringement procedures against a number of member states. Although all EU member states have transposed the Directive's core provisions, further improvements are required in several key areas.

According to the Commission, these include the material scope, the conditions for protection and measures addressing retaliation and the effectiveness of penalties.

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REGULATORY AND LEGISLATIVE ASPECTS OF THE NATURAL GAS MARKET IN THE EUROPEAN UNION AND THE SLOVAK REPUBLIC

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Abstract: This article analyzes the regulatory and legislative aspects of the gas market within the European Union and the Slovak Republic, framed by the ongoing transformation of the energy sector. The primary objective is to identify key legal instruments shaping the gas market's operations and to assess their impact on security of supply, market liberalization, consumer protection, and the decarbonization process. Particular attention is paid to the evolution of European energy policy since the adoption of the Treaty of Lisbon, the implementation of EU energy packages, the Fit for 55 and REPowerEU initiatives, and the new legislative package for the renewable gas and hydrogen markets. Furthermore, the paper examines the transposition of European legislation into the Slovak legal framework, including the Energy Act, the Act on Regulation in Network Industries, relevant decrees of the Regulatory Office for Network Industries (ÚRSO), and strategic documents such as the National Energy and Climate Plan of the Slovak Republic and the National Hydrogen Strategy. The findings indicate a fundamental transformation of the gas sector toward the integration of renewable and low-carbon gases, while identifying the critical regulatory, investment, and socio-economic challenges inherent in this transition.
Keywords: gas, regulation, legislation
JEL: K32, K23, P28

Introduction

The gas market in the European Union and the Slovak Republic has undergone a fundamental structural transformation over the last decade. EU energy policy has progressively evolved from a primarily national competence into a sphere of intensive European coordination, a shift formalized by the anchoring of energy into EU primary law through Article 194 of the TFEU. Market liberalization, the enhancement of security of supply, and the construction of the internal energy market have been successively supplemented by ambitious climate goals aiming for carbon neutrality by 2050. Geopolitical events, most notably the disruption of gas supplies to the EU and the war in Ukraine have significantly accelerated legislative and regulatory changes in the energy sector. Initiatives such as Fit for 55 and REPowerEU have transformed the gas sector from a traditionally stable pillar of energy security into a sector undergoing rapid decarbonization, the integration of renewable gases, and the preparation of hydrogen infrastructure. The objective of this article is to analyze the regulatory and legislative frameworks of the gas market in the EU and the Slovak Republic, identify their interconnections, and assess the extent to which they create conditions for a stable, secure, and environmentally sustainable sector transformation. The paper focuses on the hierarchy of legal acts, their implementation within the Slovak legal environment, and the challenges arising from the gradual phase-out of fossil gas and the rise of low-carbon alternatives.

Regulatory frameworks and legislation concerning the gas sector in the Slovak Republic and the EU represent a fundamental prerequisite for implementing policy objectives and investment strategies at both national and European levels. In the following sections, we analyze how legislative and regulatory instruments support or limit Slovakia's ability to respond

to identified weaknesses. Furthermore, we examine the degree to which existing legal frameworks align with energy sector transformation goals and upcoming changes in European legislation regarding gas, hydrogen, and renewable gases.

Specifically, this article aims to analyze the regulatory and legislative frameworks of the gas market in the EU and the Slovak Republic, identify their mutual links, and assess their impact on the gas sector's transformation in the context of decarbonization, energy security, and market liberalization. Concurrently, the paper evaluates the capacity of existing legislative and regulatory tools to provide a stable environment for the integration of renewable and low-carbon gases, including hydrogen and biomethane. The first part of the article is dedicated to the legislative framework of the gas sector at the European Union level, focusing on the evolution of energy policy, energy packages, and the latest legislation regarding decarbonization and renewable gases. The second part analyzes the legislative and regulatory framework in the Slovak Republic, including key laws, regulatory instruments, and strategic documents. The third part provides an overview of existing literature and identifies the research gap. The conclusion summarizes the main findings and identifies key challenges and perspectives for the future development of the gas sector within the Slovak and European contexts.

In preparing this article, primarily secondary data sources were utilized, consisting of European Union legal acts, Slovak Republic legislation, strategic energy documents, as well as professional publications and analytical materials focused on energy policy, network industry regulation, and gas sector transformation. Key documents analyzed include the EU energy packages, legislation related to the Fit for 55 and REPowerEU initiatives, the National Energy and Climate Plan of the Slovak Republic, the National Hydrogen Strategy, and relevant laws and decrees governing the Slovak gas sector. Methodologically, the article employs qualitative analysis of legal and strategic documents, comparative analysis of EU and Slovak legislative frameworks, and the synthesis of findings from academic literature and policy documents.

1 Legislative Framework of the Gas Sector in the European Union

A pivotal legislative moment for energy at the EU level was the Treaty of Lisbon (in force since December 1, 2009), which for the first time anchored energy within EU primary law through Article 194 of the TFEU. This treaty explicitly defined four strategic objectives of the Union's energy policy:

- Ensuring the functioning of the internal energy market;
- Ensuring security of energy supply;
- Promoting energy efficiency and the development of renewable energy sources;
- Promoting the interconnection of energy networks and solidarity among Member States (Treaty of Lisbon, 2007).

The Lisbon Treaty provided the legal basis for collective European responses to energy crises, particularly following the 2009 gas supply disruption via Ukraine and strengthened the EU's position as a unified actor in negotiations with external suppliers (e.g., Russia, Norway, USA). From this point forward, energy policy ceased to be viewed merely as a national matter and became an area of strategic coordination across the European Union. This shift enabled the EU to adopt comprehensive legislative packages (the 3rd and 4th Energy Packages) as well as current decarbonization targets and reforms.

The Slovak gas market currently operates on a liberalized model, which was gradually implemented in accordance with the Third Energy Package (2009). This framework introduced the unbundling of activities within the energy sector, requiring the legal and functional separation of transmission, distribution, storage, and supply (Directive 2009/73/EC). This was followed by the Fourth Energy Package, adopted in 2019, which focused primarily on electricity but carried significant implications for gas. This package emphasizes

decarbonization as a fundamental EU goal, supporting the deployment of biomethane, synthetic methane, and hydrogen as future replacements for natural gas, while preparing gas infrastructure for conversion into a hydrogen network. It also strengthens the roles of ACER and national regulatory authorities by mandating stricter oversight of cross-border energy flows and enhanced coordination between Member States. Furthermore, it imposes new requirements for digital metering, flexibility, and consumer empowerment. Key acts within this framework include Directives 2018/2001 (renewable gas rules) and 2018/2002 (energy efficiency), as well as Regulations 2018/1999 (NECP framework), 2017/1938 (security of gas supply), and 2019/942. (strengthening ACER)

Among the legal acts, Regulation (EU) No 1227/2011 on Wholesale Energy Market Integrity and Transparency (REMIT) holds fundamental importance for the gas sector. Its primary objective is to ensure transparency and integrity within the wholesale energy markets, including the gas market, across the EU. It is designed to prevent price manipulation and the abuse of privileged information. For entities operating in the energy market (such as SPP, a.s., and eustream, a.s.), it imposes an obligation to register all transactions and report data to the Agency for the Cooperation of Energy Regulators (ACER). Under this regulation, operators of gas pipelines, storage facilities, and LNG terminals must publicly disclose information regarding available capacity, maintenance schedules, outages, and real-time network operations to prevent speculative price fluctuations (Regulation (EU) 1227/2011). Furthermore, Regulation (EU) 2017/1938 establishes measures to safeguard the security of gas supply in the EU, including the requirement for Member States to develop preventive action plans and emergency protocols. This regulation was subsequently amended in response to geopolitical shifts following the war in Ukraine to strengthen solidarity mechanisms and crisis preparedness (Regulation (EU) 2017/1938). It was further updated by Regulation (EU) 2022/1032, which mandates gas storage filling obligations for Member States as a reaction to volatile gas prices. This update also introduced transparent reporting on storage levels and a solidarity mechanism for supply sharing (Regulation (EU) 2022/1032). In the wake of the 2022 energy price crisis, the EU also adopted Regulation (EU) 2022/1369 regarding coordinated measures for gas demand reduction. This is followed by a regulation aimed at the complete phase-out of Russian gas and oil supplies to the EU by the end of 2027 (Jurkovič, 2025). Additionally, the revised Renewable Energy Directive 2023/2413 (RED III), which entered into force in November 2023, increased the EU's 2030 target for the share of renewable energy to 42.5%, with an ambition to reach 45%. It also introduces measures to accelerate the permitting processes for new renewable energy projects and promotes renewable energy use in sectors such as heating, cooling, industry, and transport. (Directive (EU) 2023/2413)

Building upon the 4th Energy Package, the EU developed a specific "Hydrogen and Decarbonized Gas Market Package" (comprising Directive 2024/1788 and Regulations 2024/1789 and 2024/1787), which is further supported by the Fit for 55 framework. Directive (EU) 2024/1788 establishes common rules for internal markets in renewable gas, natural gas, and hydrogen, aiming to integrate low-carbon gases into the energy system and ensure consumer protection. This is complemented by Regulation (EU) 2024/1789, which governs the organization of these internal markets, ensuring market transparency and fair third-party access to infrastructure for renewable gases and hydrogen. Additionally, Regulation (EU) 2024/1787 addresses methane emissions reduction in the energy sector, mandating precise measurement, monitoring, and verification of emissions to align with EU climate goals. The Fit for 55 package itself represents a set of legislative proposals designed to reduce EU greenhouse gas emissions by 55% by 2030 compared to 1990 levels. For the gas sector, this implies a phased withdrawal from fossil fuels, expanded support for biomethane, and stricter emission limits. It also creates a framework for investment in low-carbon technologies and hydrogen infrastructure. Included within this package is the REPowerEU plan, which accelerates these objectives with an

emphasis on ending dependence on Russian fossil fuels through supply diversification and massive investment in clean energy (REPowerEU, 2022). For Slovakia, REPowerEU offers an opportunity to utilize additional European funding through the Recovery and Resilience Plan (Component 19) for projects focused on building energy efficiency, renewable energy support, and the development of infrastructure for renewable gases and hydrogen.

The complete and currently ongoing transposition of Directive 2024/1788 and Regulations 2024/1789 and 2024/1787 into Slovak legislation will bring about radical changes. The Regulatory Office for Network Industries (ÚRSO) will be required to adjust regulatory frameworks and tariff models for gas transmission, distribution, and storage to allow the integration of hydrogen and biomethane into existing networks. Operators such as eustream, a.s., SPP – distribúcia, a.s., and NAFTA, a.s. must adapt their gas grids and storage facilities for "blending" (mixing gas with hydrogen), with the long-term perspective of building dedicated hydrogen networks according to EU standards. Consequently, Member States, including Slovakia, will need to establish mechanisms to support the production and utilization of biomethane and renewable hydrogen, including certification and guarantees of origin, to ensure market competitiveness for low-carbon alternatives.

Table 1: Legal Acts of the European Union

Legal Acts of the European Union	
1.	Energy Community Treaty
2.	Regulation (EU) 2024/1789 of the European Parliament and of the Council on the internal markets for renewable gas, natural gas and hydrogen, amending Regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No 715/2009 (recast)
3.	Regulation (EU) 2023/1804 of the European Parliament and of the Council on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU
4.	Regulation (EU) 2019/942 of the European Parliament and of the Council establishing a European Union Agency for the Cooperation of Energy Regulators (ACER)
5.	Commission Implementing Regulation (EU) 2017/460 establishing a network code on harmonised transmission tariff structures for gas
6.	Commission Implementing Regulation (EU) No 1348/2014 on data reporting implementing Article 8(2) and Article 8(6) of Regulation (EU) No 1227/2011 on wholesale energy market integrity and transparency
7.	Commission Implementing Regulation (EU) 2022/2301 setting the filling trajectory with intermediate targets for 2023 for each Member State with underground gas storage facilities on its territory and directly interconnected to its market area
8.	Commission Implementing Regulation (EU) 2020/1294 on the Union renewable energy financing mechanism
9.	Commission Regulation (EU) 2017/459 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013
10.	Regulation (EU) 2024/1787 of the European Parliament and of the Council on methane emissions reduction in the energy sector and amending Regulation (EU) 2019/942
11.	Regulation (EU) 2024/1787 on methane emissions reduction in the energy sector *(Note: duplicate entry of item 10)*

12. Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks
13. Regulation (EU) 2017/1938 of the European Parliament and of the Council concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010
14. Commission Regulation (EU) No 312/2014 establishing a Network Code on Gas Balancing of Transmission Networks
15. Commission Regulation (EU) 2015/703 establishing a network code on interoperability and data exchange rules
16. Regulation (EU) 2024/1252 of the European Parliament and of the Council establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020
17. Regulation (EU) 2022/869 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013
18. Council Regulation (EU) 2023/706 amending Regulation (EU) 2022/1369 as regards prolonging the demand-reduction period for gas demand-reduction measures and reinforcing the reporting and monitoring of their implementation
19. Regulation (EU) 2016/1952 of the European Parliament and of the Council on European statistics on natural gas and electricity prices and repealing Directive 2008/92/EC
20. Regulation (EU) 2023/956 of the European Parliament and of the Council establishing a carbon border adjustment mechanism (part of the *Fit for 55* package)
21. Regulation (EU) 2022/1032 of the European Parliament and of the Council amending Regulations (EU) 2017/1938 and (EC) No 715/2009 as regards gas storage
22. Directive (EU) 2024/1788 of the European Parliament and of the Council on common rules for the internal markets in renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC
23. Directive (EU) 2023/2413 of the European Parliament and of the Council amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652
24. Fit for 55 – A set of legislative proposals to reduce EU greenhouse gas emissions by at least 55% by 2030
25. REPowerEU – Regulation (EU) 2023/435, integrated into Component 19 of the Slovak Recovery and Resilience Plan and under the *Fit for 55* framework
26. The European Green Deal – A strategic framework and set of policy initiatives aiming for a 55% reduction in carbon footprint by 2030
27. A Hydrogen Strategy for a Climate-Neutral Europe

Source: Slovlex, own processing

2 Legislative and Regulatory Framework of the Gas Sector in Slovakia

The national legislative framework for energy and gas is significantly influenced by European legislation, whose legal acts are transposed into the Slovak legal order to establish common rules for the internal gas market. The gas sector in Slovakia is regulated and shaped by a set of strategic, legislative, and technical documents that determine its direction, security, and sustainability. These documents are fundamental to understanding the sector's operation and its integration into the country's broader energy framework. In the Constitution of the Slovak Republic, Article 4 establishes that natural gas extracted within the territory of the SR constitutes public state property as part of the country's mineral wealth. Furthermore, Article 20 enables state control over strategic energy enterprises (e.g., SPP, a.s.) and specifies that the state may own or regulate critical infrastructure, such as pipelines and gas storage facilities. This article also permits the regulation of business activities within the gas industry based on public interest. Other constitutional provisions, including the right to a favorable environment and the right to conduct business, provide the foundational economic principles that marginally touch upon the analyzed issue (Constitution of the SR, 1992). Thus, the Constitution guarantees the protection of property, entrepreneurship, and consumer rights within the gas sector.

The primary legal framework for the gas sector is governed by Act No. 251/2012 Coll. on Energy, as amended, which sets the conditions for doing business in the energy sector, including rules for the operation of gas facilities and protection zones. This act also outlines measures to ensure security of gas supply and the functioning of the internal market (Act No. 251/2012). Act No. 259/2025 Coll., which amends the Energy Act, represents a partial transposition of the aforementioned EU Regulations and Directives. It introduces definitions for renewable and low-carbon gases, infrastructure access conditions, new obligations for network operators, and a framework for guarantees of origin for renewable gases (Act No. 259/2025).

The regulation of prices and terms for gas supply to end consumers is governed by Act No. 250/2012 Coll. on Regulation in Network Industries, which establishes the Regulatory Office for Network Industries (ÚRSO). ÚRSO determines the regulatory conditions of the gas market, setting maximum prices and tariffs for access to and use of transmission, distribution, and storage networks. Beyond price regulation, the Office performs a substantive regulatory function by approving the Operational Orders of network and storage operators. These orders define market rules, technical operational parameters, and the framework for relationships between network operators and users, directly impacting end consumers. Based on its legal competencies, ÚRSO also assesses technical conditions for network access, connection, and general operation (ÚRSO, Annual Report, 2023). Additionally, Act No. 309/2009 Coll. on the Promotion of Renewable Energy Sources provides the legal basis for supporting biomethane production, while ÚRSO Decrees further refine pricing, network access conditions, and quality standards.

These legislative instruments constitute the domestic framework for the implementation of the National Energy and Climate Plan (NECP) of the Slovak Republic. The NECP is a strategic document guiding Slovakia's energy policy toward 2030, covering five key areas: decarbonization, energy efficiency, energy security, internal energy market development, and research, development, and innovation. A central goal is to increase the share of renewable energy sources (RES) in gross final energy consumption to at least 23% by 2030, emphasizing biomass, solar, and wind energy. Regarding energy efficiency, the plan envisages a 30.3% reduction in primary energy consumption compared to the baseline scenario (MH SR, NECP, 2021). Building on these decarbonization plans, the Slovak government adopted the National Hydrogen Strategy in 2021 to support the transition to carbon neutrality by 2050. This aligns with the European Hydrogen Strategy, focusing on sectors where electrification is less efficient, such as heavy industry, transport, and gas heating (MH SR, National Hydrogen Strategy, 2021).

To facilitate its realization, the Action Plan for the National Hydrogen Strategy was adopted in 2025, covering production support, infrastructure adaptation for hydrogen transport, and the construction of refueling stations. The strategy anticipates hydrogen consumption in Slovakia reaching approximately 200,000 tonnes per year by 2030, potentially increasing to 400,000–600,000 tonnes by 2050. However, the strategy faces challenges including high production costs and infrastructure transformation needs. Notably, the European Court of Auditors has expressed concerns that the EU's goal to produce and import 10 million tonnes of green hydrogen by 2030 may be difficult to achieve given current capacities (Abnett, 2024).

To provide a systematic overview, the following table summarizes the legal acts in the energy sector with implications for the gas market, organized in descending order by their degree of legal bindingness. This hierarchy allows for a clear identification of the legal norms and their influence on the creation and implementation of energy policy.

Table 2: Legal Acts of the Slovak Republic

Legal Acts of the Slovak Republic
1. Constitution of the Slovak Republic
2. Act No. 24/2006 Coll. on Environmental Impact Assessment and on amendments to certain acts, as amended.
3. Act No. 108/2024 Coll. on Consumer Protection and on amendments to certain acts, as amended.
4. Act No. 146/2023 Coll. on Air Protection and on amendments to certain acts.
5. Act No. 143/2024 Coll. amending Act No. 250/2012 Coll. on Regulation in Network Industries, as amended.
6. Act No. 363/2022 Coll. amending Act No. 309/2009 Coll. on the Promotion of Renewable Energy Sources and High-efficiency Cogeneration, as amended.
7. Act No. 250/2012 Coll. on Regulation in Network Industries, as amended.
8. Act No. 251/2012 Coll. on Energy and on amendments to certain acts, as amended.
9. Act No. 259/2025 Coll. amending Act No. 251/2012 Coll. on Energy and on amendments to certain acts, as amended.
10. Act No. 309/2009 Coll. on the Promotion of Renewable Energy Sources and High-efficiency Cogeneration, as amended.
11. Act No. 321/2014 Coll. on Energy Efficiency and on amendments to certain acts, as amended.
12. Act No. 355/2007 Coll. on Protection, Promotion, and Development of Public Health and on amendments to certain acts, as amended.
13. Act No. 391/2015 Coll. on Alternative Dispute Resolution for Consumer Disputes and on amendments to certain acts, as amended.
14. Act No. 609/2007 Coll. on Excise Duty on Electricity, Coal, and Natural Gas and on amendments to Act No. 98/2004 Coll. on Excise Duty on Mineral Oil, as amended.
15. Decree of ÚRSO No. 390/2024 Coll. amending Decree No. 147/2024 Coll., establishing price regulation of regulated activities in the gas sector and certain conditions for performing regulated activities in the gas sector.
16. Decree of ÚRSO No. 132/2024 Coll. amending Decree of ÚRSO No. 208/2023 Coll., establishing rules for the functioning of the internal gas market, the content of the

operational order of the network operator and the storage operator, and the scope of commercial terms.
17. Decree of ÚRSO No. 352/2024 Coll. amending Decree of ÚRSO No. 208/2023 Coll., establishing rules for the functioning of the internal gas market, the content of the operational order, and the scope of commercial terms.
18. Decree of ÚRSO No. 233/2016 Coll. amending Decree of ÚRSO No. 278/2012 Coll., establishing quality standards for gas storage, transmission, distribution, and supply.
19. Decree of ÚRSO No. 318/2024 Coll. amending Decree of ÚRSO No. 278/2021 Coll., establishing quality standards for gas storage, transmission, distribution, and supply.
20. Decree of ÚRSO No. 234/2016 Coll. amending Decree of ÚRSO No. 277/2012 Coll., establishing quality standards for heat supply.
21. Decree of ÚRSO No. 315/2024 Coll. amending Decree of ÚRSO No. 277/2012 Coll., establishing quality standards for heat supply.
22. Decree of ÚRSO No. 285/2012 Coll. establishing price regulation for gas supply to small enterprises.
23. Decree of ÚRSO No. 85/2022 Coll. amending Act No. 250/2012 Coll. on Regulation in Network Industries, as amended.
24. Decree of ÚRSO No. 318/2024 Coll. establishing quality standards for gas storage, transmission, distribution, and supply *(Note: specific update to Decree 278/2012)*.
25. Decree of ÚRSO No. 376/2021 Coll. establishing price regulation in the gas sector.
26. Decree of ÚRSO No. 80/2015 Coll. establishing details on the support of renewable energy sources, high-efficiency cogeneration, and biomethane.
27. Decree of ÚRSO No. 291/2019 Coll. establishing details on the support of renewable energy sources, high-efficiency cogeneration, and biomethane.
28. Decree of ÚRSO No. 437/2011 Coll. establishing details on the support of renewable energy sources, high-efficiency cogeneration, and biomethane.
29. Operational Order of eustream, a.s.
30. Operational Order of SPP – distribúcia, a.s.
31. National Energy and Climate Plan of the Slovak Republic (NECP)
32. National Hydrogen Strategy of the Slovak Republic

Source: Slovlex, own processing

3 Literature Review and Identification of the Research Gap

The regulation and transformation of the gas sector in the European Union are the subjects of numerous scholarly studies focusing primarily on the liberalization of energy markets, security of supply, integration of renewable energy sources, and the overall decarbonization of the energy system. Professional literature highlights that while the gas sector has long played a significant role as a "bridge fuel" in the energy transition process, current discourse increasingly centers on its future role within the framework of climate neutrality and the deployment of renewable and low-carbon gases.

Research in this field extensively covers energy market liberalization, gas sector regulation, and market integration. For instance, Herweg, Wurster, and Dümig (2018) analyze the impacts of regulatory reforms in the EU natural gas market and evaluate the relative success of its liberalization. In the Slovak academic context, Duleba (2015) has significantly contributed

to the study of energy policy and security, particularly concerning natural gas supplies and the geopolitical dimensions of energy. Despite the relatively extensive body of literature dedicated to EU energy policy and general energy transformation, there is a lack of comprehensive studies that analyze the direct interconnection between the European legislative framework and its specific implementation within the Slovak Republic. This is particularly evident concerning the transformation of the gas sector toward renewable and low-carbon gases. The research gap therefore lies in the comprehensive assessment of the legislative and regulatory frameworks of the European Union and the Slovak Republic and their specific impact on the gas sector's transformation within a small, open economy such as Slovakia. Consequently, the objective of this article is to contribute to filling this gap through a systematic analysis of legislative and regulatory instruments at both the EU and national levels, assessing their influence on sector transformation, security of supply, and the decarbonization process.

Conclusion

The analysis conducted indicates that the Slovak gas sector is currently undergoing a period of intense and structural transformation, driven by the climate ambitions of the European Union, geopolitical factors, and dynamic technological advancements. The national legal framework represented by the Constitution of the Slovak Republic and key legislation regarding energy, network industry regulation, and the promotion of renewable energy sources establishes the fundamental conditions for the gas market's operation, with a primary focus on security of supply, consumer protection, and regulatory stability. However, this framework is inextricably linked to European legislation, which increasingly emphasizes decarbonization, the integration of renewable and low-carbon gases, the reduction of methane emissions, and the enhancement of energy security. Initiatives such as Fit for 55 and REPowerEU are accelerating the transition from fossil gas to biomethane and hydrogen, while simultaneously exerting pressure for the modernization and technological adaptation of gas infrastructure. The National Energy and Climate Plan (NECP) of the Slovak Republic, together with the National Hydrogen Strategy, concretizes these European objectives within the context of domestic energy policy. Nevertheless, the sector's transformation is associated with significant challenges. These primarily include high investment costs for grid upgrades, the necessity for technological and regulatory stability, the harmonization of technical standards for hydrogen and biomethane blending, and the challenge of ensuring sufficient demand for affordable low-carbon gases. An equally critical aspect remains the sector coupling between gas and electricity, as well as maintaining industrial competitiveness amidst rising energy prices and shifting demand for natural gas.

The future development of the gas market in the Slovak Republic will thus depend on the ability to effectively align European and national regulatory frameworks, ensure a financially sustainable modernization of infrastructure, and guarantee a socially just transition that avoids significant negative impacts on households and the broader economy.

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DIGITAL MONITORING IN THE EU COMMON AGRICULTURAL POLICY: ENHANCING ENVIRONMENTAL COMPLIANCE OR EXPANDING SURVEILLANCE?

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Abstract: This paper examines the use of satellite-based monitoring and artificial intelligence in enforcing environmental conditionality under the EU Common Agricultural Policy (CAP). It aims to assess whether digital monitoring enhances compliance while remaining consistent with EU legal standards. The analysis is based on doctrinal legal research, including relevant EU legislation and case law of the Court of Justice, particularly Digital Rights Ireland Ltd v Minister for Communications and Schrems v Data Protection Commissioner. The findings indicate that digital monitoring improves detection of non-compliance and administrative efficiency but raises significant concerns regarding proportionality, data protection and procedural fairness. The paper concludes that, without adequate safeguards under the General Data Protection Regulation and the AI Act, such systems may risk undermining fundamental rights. It contributes to the debate on digital governance in EU agricultural policy by highlighting the need to balance technological innovation with legal guarantees, and it suggests that effective environmental outcomes require both robust monitoring and supportive policy design.

Keywords: Common Agricultural Policy, digital monitoring; artificial intelligence, data protection, proportionality, EU law

JEL: K32, Q18, K24

Introduction

The environmental dimension of the Common Agricultural Policy (CAP) has undergone a profound transformation in recent decades, culminating in the 2023–2027 reform cycle. Originally conceived as a mechanism for ensuring food security and stabilising agricultural markets, the CAP now functions as a central instrument for advancing environmental and climate objectives within the European Union. Regulation (EU) 2021/2115 reflects this transition by explicitly linking CAP Strategic Plans to environmental and climate goals and by reinforcing mechanisms such as conditionality and eco-schemes (European Union, 2021). As a result, agricultural subsidies are increasingly conditioned upon compliance with environmental standards, transforming CAP payments into tools of environmental governance rather than purely economic support.

This reorientation of the CAP must be understood within the broader framework of EU environmental policy, including the European Green Deal and related strategies such as the Farm to Fork Strategy and the EU Biodiversity Strategy for 2030. These initiatives emphasise the need for systemic change in agricultural production, including reductions in greenhouse gas emissions, improvements in soil health and the protection of ecosystems. However, the effectiveness of these policy instruments remains contested, with persistent gaps between environmental objectives and actual outcomes highlighted in institutional reports (European Court of Auditors, 2021).

A central challenge in this regard lies in the enforcement of environmental conditionality. While the CAP establishes a comprehensive framework of obligations—such as Good Agricultural and Environmental Conditions (GAECs) and eco-schemes—the extent to

which these requirements are effectively monitored and enforced remains uncertain. Traditional control mechanisms, based on on-the-spot inspections and administrative checks, are often resource-intensive and limited in scope, raising concerns about their capacity to ensure consistent compliance.

In response, the CAP has increasingly incorporated digital technologies into its implementation framework. Satellite-based monitoring systems, particularly those supported by the Copernicus Programme, enable continuous or near real-time observation of agricultural land and compliance verification (European Commission, 2023). Combined with artificial intelligence (AI) and automated data processing, these systems allow for large-scale analysis of land use, crop classification and potential irregularities. This development reflects a broader shift towards data-driven governance, in which administrative decision-making is increasingly informed by digital technologies.

While digital monitoring offers clear advantages in terms of efficiency and detection of non-compliance, it also raises significant legal and normative concerns. In particular, the continuous observation of agricultural land has implications for the protection of personal data, the transparency of administrative processes and the preservation of procedural safeguards. These concerns must be assessed in light of the General Data Protection Regulation (European Union, 2016) and the AI Act (European Union, 2024), as well as broader principles of EU law such as proportionality and legal certainty.

Moreover, the digitalisation of CAP enforcement must be considered in light of the jurisprudence of the Court of Justice of the European Union. In particular, cases such as Digital Rights Ireland Ltd v Minister for Communications (Court of Justice of the European Union, 2014) and Schrems v Data Protection Commissioner (Court of Justice of the European Union, 2015) highlight the risks associated with large-scale and indiscriminate data collection, emphasising the need for strict proportionality and effective safeguards.

In addition, the CAP must be situated within the framework of international environmental obligations. The European Union has committed to ambitious targets under the Paris Agreement (United Nations, 2015) and the Convention on Biological Diversity (United Nations, 1992), which require effective domestic implementation. Given the environmental impact of agricultural activities, the CAP plays a crucial role in achieving these commitments.

The primary objective of this paper is to assess whether the increasing reliance on digital monitoring within the CAP enhances environmental compliance in a manner consistent with EU legal standards and international environmental obligations. Specifically, the paper addresses three research questions: (1) to what extent digital monitoring improves compliance with environmental conditionality; (2) whether the use of satellite data and AI complies with EU data protection and administrative law requirements; and (3) whether such technologies contribute to the effective implementation of international environmental commitments.

Methodologically, the paper adopts a doctrinal legal approach, based on the analysis of EU legislation, case law of the Court of Justice of the European Union and relevant academic literature. In addition, it incorporates an analytical and evaluative perspective, assessing the implications of digital monitoring for the effectiveness and legitimacy of CAP environmental governance.

The paper argues that, while digital monitoring systems have the potential to improve enforcement and consistency, their legitimacy depends on the existence of robust legal safeguards. In the absence of such safeguards, the digitalisation of CAP enforcement risks prioritising administrative efficiency over fundamental rights and substantive environmental outcomes.

1 CAP Environmental Compliance Framework

The environmental dimension of the CAP is primarily implemented through a system of conditionality and eco-schemes, which together form the core of its so-called 'green architecture'. This framework reflects the increasing integration of environmental considerations into EU agricultural policy and the gradual transformation of the CAP into an instrument of environmental governance. Under Regulation (EU) 2021/2115, farmers receiving direct payments are required to comply with a set of baseline environmental standards, known as Good Agricultural and Environmental Conditions ('GAECs') and Statutory Management Requirements ('SMRs') (European Union, 2021). These obligations encompass a broad range of environmental concerns, including soil protection, water quality, biodiversity conservation and climate mitigation. Non-compliance may result in administrative sanctions, including reductions or exclusions from CAP payments, thereby establishing a direct link between financial support and environmental performance.

From a legal perspective, conditionality operates as a regulatory mechanism embedded within subsidy law, effectively transforming CAP payments into conditional entitlements rather than unconditional transfers. This reflects a broader shift towards results-oriented and compliance-based governance, in which financial incentives are used to secure adherence to environmental standards. At the same time, the effectiveness of this mechanism depends not only on the design of the rules but also on the robustness of monitoring and enforcement systems, which determine whether these obligations are applied in practice.

In addition to conditionality, the 2023–2027 CAP introduces eco-schemes as voluntary instruments under Pillar I, designed to incentivise farmers to adopt practices that go beyond minimum requirements (European Union, 2021). These schemes represent a key innovation of the current CAP framework, aiming to reward environmentally beneficial practices such as carbon farming, agroecological methods and the preservation of permanent grasslands. Eco-schemes are financed from direct payments and are intended to contribute to broader EU environmental objectives, including those set out in the European Green Deal. (European Commission, 2019)

However, the legal and institutional design of eco-schemes grants a significant degree of discretion to Member States, which are responsible for defining their content within national CAP Strategic Plans. While this flexibility allows for adaptation to local conditions, it also introduces the risk of fragmentation and uneven implementation across the European Union. Consequently, the environmental ambition and effectiveness of eco-schemes may vary significantly between Member States, raising concerns regarding the overall coherence of CAP environmental policy.

The combination of mandatory conditionality and voluntary eco-schemes reflects a transition from traditional subsidy models towards a more performance-based and incentive-driven approach. In theory, this hybrid model allows for both baseline compliance and progressive environmental improvements. Nevertheless, concerns persist regarding the actual effectiveness of these instruments, particularly in light of differences in national implementation, administrative capacity and the limited ambition of certain eco-schemes. (European Court of Auditors, 2021) In this context, the role of monitoring and enforcement becomes particularly significant. Without effective control mechanisms, there is a risk that environmental requirements remain largely formal, rather than producing tangible environmental outcomes.

The environmental objectives embedded within the CAP must also be understood in the broader context of the European Union's international commitments. In particular, agricultural policy is expected to contribute to the achievement of targets under the Paris Agreement (United Nations, 2015), including the reduction of greenhouse gas emissions and the promotion of climate-resilient land use. Similarly, the CAP is closely linked to the EU's obligations under

the Convention on Biological Diversity (United Nations, 1992), especially with regard to halting biodiversity loss and restoring ecosystems affected by intensive agricultural practices. These international frameworks reinforce the importance of integrating environmental considerations into agricultural policy and ensuring that CAP measures contribute effectively to global sustainability objectives.

Despite these formal linkages, the extent to which CAP payments effectively support international environmental objectives remains subject to considerable debate. Critics argue that certain subsidy structures continue to incentivise environmentally harmful practices, thereby undermining the EU's external commitments and raising questions regarding policy coherence. (Matthews, 2020) This tension highlights the importance of effective compliance mechanisms and credible enforcement systems, which are essential to ensuring that CAP funding is aligned with environmental objectives in both legal and practical terms.

In this regard, digital monitoring systems, including satellite-based observation and AI-driven analysis, may offer new opportunities for improving transparency, consistency and accountability in CAP implementation. By enabling continuous observation and more precise detection of non-compliance, such systems have the potential to strengthen the enforcement of environmental conditionality. However, their introduction also raises complex legal questions, particularly in relation to data protection, administrative fairness and fundamental rights, which will be examined in subsequent sections.

2 Digital Monitoring Technologies in the CAP

The increasing digitalisation of the CAP has led to the development of new monitoring mechanisms, most notably the Area Monitoring System (AMS). This system relies on satellite imagery to observe agricultural land and verify compliance with CAP requirements on a continuous basis, rather than through traditional on-the-spot checks. (European Union, 2021) The AMS is primarily supported by data generated through the Copernicus Programme, which provides high-resolution and frequently updated images of land use across the European Union. (European Commission, 2023)

Through satellite observation, national authorities are able to detect key indicators of compliance, such as crop diversification, maintenance of permanent grassland or adherence to environmental set-aside requirements. This represents a significant shift from ex post inspection models towards real-time or near real-time monitoring, allowing for earlier detection of irregularities and, in some cases, preventive communication with farmers before formal sanctions are imposed. In this sense, the AMS contributes to a more preventive and risk-based model of enforcement, rather than one based solely on retrospective control.

From a policy perspective, the AMS is intended to improve both administrative efficiency and the reliability of control systems. The European Commission has emphasised that satellite-based monitoring can reduce the need for physical inspections, lower administrative costs and provide more objective and comprehensive data on agricultural practices (European Commission, 2023). Moreover, the use of harmonised satellite data across Member States may enhance the consistency and comparability of enforcement practices within the CAP framework. However, the transition to continuous monitoring also fundamentally alters the nature of CAP enforcement by embedding technological systems at the centre of compliance verification, thereby reducing reliance on human discretion and traditional administrative procedures.

In addition to satellite data, the CAP increasingly relies on artificial intelligence (AI) and automated data processing to interpret and analyse the large volumes of information generated by remote sensing technologies. AI tools are used, for example, to classify crops, detect anomalies in land use and flag potential cases of non-compliance for further administrative review (European Commission, 2023). These systems enable authorities to

process vast datasets more efficiently than would be possible through manual analysis alone, thereby enhancing the scalability of monitoring systems and allowing for more comprehensive oversight of agricultural activities.

The integration of AI into CAP monitoring contributes to the emergence of a more data-driven and algorithmically informed model of agricultural governance, in which decisions regarding eligibility for payments are increasingly influenced by automated assessments. In some cases, farmers may receive automated alerts or notifications indicating potential breaches of CAP conditions, allowing them to take corrective action before penalties are applied. While this may enhance compliance and reduce inadvertent errors, it also raises important questions regarding the extent of human oversight and the role of administrative discretion in decision-making processes.

The use of AI within CAP monitoring must therefore be considered in light of broader EU regulatory developments, particularly the AI Act (European Union, 2024), which introduces requirements relating to transparency, risk management and human supervision of high-risk AI systems. Although CAP monitoring systems are not always explicitly classified within this framework, their potential impact on individuals' economic rights—such as access to agricultural subsidies—suggests that they may fall within the scope of systems requiring enhanced safeguards. In particular, the reliance on algorithmic outputs in administrative decision-making raises questions regarding explainability, accountability and the possibility of effective review, which are central concerns in both EU administrative law and data protection law.

Overall, digital monitoring technologies represent a significant innovation in the implementation of the CAP. They offer clear advantages in terms of efficiency, data availability and enforcement capacity, and may contribute to more consistent and objective application of environmental conditions. At the same time, they introduce new legal and governance challenges that require careful assessment. In particular, the increasing reliance on automated systems necessitates a reconsideration of traditional concepts of administrative control, raising important issues relating to accountability, procedural fairness and the protection of fundamental rights. These challenges underscore the need for a comprehensive legal framework capable of balancing technological innovation with the principles underpinning EU law.

3 Legal and Regulatory Challenges

The deployment of satellite-based monitoring and AI-driven data processing within the CAP raises complex issues under the General Data Protection Regulation (European Union, 2016). Although remote sensing technologies primarily capture information relating to land use, such data may nonetheless constitute personal data within the meaning of Article 4(1) GDPR where it relates to an identifiable natural person, particularly in light of the close linkage between agricultural parcels and individual beneficiaries of CAP payments.

In this respect, the processing of such data must comply with the fundamental principles set out in Article 5 GDPR, including lawfulness, fairness and transparency, as well as purpose limitation and data minimisation. While the monitoring of compliance with CAP conditionality may be justified under Article 6(1)(e) GDPR as a task carried out in the public interest (European Union, 2016), the principle of proportionality remains central. The transition from sporadic, on-the-spot inspections to continuous or near-continuous monitoring fundamentally alters the intensity of interference with the data subject's private sphere.

This raises the question whether the systematic and generalised observation of agricultural activities constitutes a disproportionate interference with the rights guaranteed under Articles 7 and 8 of the Charter of Fundamental Rights of the European Union. In particular, the absence of clear temporal or material limits on data collection may give rise to

concerns of function creep, whereby data collected for compliance purposes could potentially be repurposed for other administrative or regulatory objectives.

The importance of strict proportionality in the context of large-scale data collection has been repeatedly emphasised in the jurisprudence of the Court of Justice of the European Union. In particular, in Digital Rights Ireland Ltd v Minister for Communications (Court of Justice of the European Union, 2014), the Court invalidated EU data retention legislation on the basis that it entailed a wide-ranging and particularly serious interference with fundamental rights, without being limited to what was strictly necessary. The Court has subsequently reaffirmed this approach in later case law, stressing that measures involving generalised and indiscriminate data collection must be accompanied by clear and precise rules governing their scope and application, as well as robust safeguards against abuse.

This strict approach to proportionality was further reinforced in Schrems v Data Protection Commissioner (Court of Justice of the European Union, 2015), where the Court emphasised that legislation permitting public authorities to access personal data on a generalised basis compromises the essence of the fundamental right to data protection. The Court further highlighted that effective legal protection requires not only substantive limitations on data processing, but also the availability of independent oversight and enforceable rights for individuals.

Although the regulatory context of data transfers differs from that of agricultural monitoring, the underlying principle remains instructive. Systems which enable broad and continuous observation, without sufficiently precise limitations or safeguards, risk undermining the level of protection guaranteed under EU law. By analogy, although satellite monitoring under the CAP pursues a different regulatory objective, the underlying logic remains applicable. The systematic and continuous observation of agricultural land—where such monitoring is capable of being linked to identifiable beneficiaries—may similarly constitute a significant interference with fundamental rights. Accordingly, the legality of such systems depends on the existence of sufficient safeguards, including limitations on data use, clear accountability mechanisms and effective avenues for redress.

Furthermore, the principle of transparency requires that data subjects be adequately informed about the existence and functioning of monitoring systems. Given the technical complexity of satellite surveillance and AI-based analysis, ensuring meaningful transparency presents a significant challenge. Farmers must not only be informed that monitoring takes place, but also be able to understand its implications for their rights and obligations. The effectiveness of data subject rights—such as the right of access and the right to contest processing—depends, in practice, on the intelligibility of these systems.

The increasing reliance on algorithmic systems in the interpretation of satellite data raises fundamental concerns regarding administrative transparency and accountability. Decisions relating to CAP payments, including reductions or exclusions based on non-compliance, must comply with general principles of EU law, notably the obligation to provide reasons and the right to effective judicial protection under Article 47 of the Charter. Where such decisions are informed by AI systems, difficulties arise in ensuring that affected individuals are able to understand the basis upon which determinations have been made. Complex algorithmic models, particularly those based on machine learning techniques, may operate as opaque or ‘black box’ systems, thereby limiting the possibility of meaningful scrutiny. This is problematic in light of established case law of the Court of Justice of the European Union, which requires that administrative decisions be sufficiently reasoned to enable individuals to defend their rights (Court of Justice of the European Union, 2008; 2012).

The regulatory framework established by the AI Act (European Union, 2024) seeks to address some of these concerns by imposing obligations relating to risk management, transparency and human oversight for high-risk AI systems. CAP monitoring tools may fall

within this category where they significantly affect access to public funds. In such cases, authorities are required to ensure that automated outputs are subject to effective human supervision, thereby preserving the role of administrative discretion and preventing the substitution of human judgement by purely technical processes.

Issues of accountability are further complicated by the multiplicity of actors involved in the development and deployment of these systems, including EU institutions, national authorities and private technology providers. The resulting fragmentation of responsibility may hinder the attribution of liability in cases of error or malfunction. From a legal perspective, this raises concerns regarding legal certainty and the availability of effective remedies for individuals adversely affected by incorrect or unjustified decisions.

The digitalisation of CAP monitoring also has significant implications for procedural guarantees traditionally associated with administrative decision-making. The replacement of physical inspections with automated monitoring reduces opportunities for direct interaction between farmers and administrative authorities, potentially limiting the exercise of the right to be heard prior to the adoption of adverse decisions. According to the jurisprudence of the Court of Justice, the right to be heard constitutes a fundamental principle of EU law, applicable in all proceedings which may result in measures adversely affecting an individual. (Court of Justice of the European Union, 2012)

In the context of AI-assisted monitoring, there is a risk that decisions may be taken on the basis of algorithmic outputs without providing farmers with a genuine opportunity to present observations or challenge the underlying data. Moreover, the reliability of satellite and AI systems is not absolute. Errors in data interpretation, limitations in image resolution or contextual misunderstandings may lead to false positives, whereby compliant behaviour is incorrectly classified as non-compliance. In such circumstances, the absence of robust procedural safeguards may result in unjustified financial penalties.

To ensure compliance with principles of due process, it is therefore essential that CAP monitoring systems incorporate mechanisms for review, correction and appeal, enabling farmers to contest both the factual and legal basis of administrative decisions. This includes access to the underlying data and, where relevant, an explanation of the algorithmic processes involved.

Notwithstanding the legal challenges identified above, digital monitoring technologies possess considerable potential to enhance the effectiveness of environmental enforcement within the CAP. By enabling continuous observation and rapid detection of non-compliant practices, such systems may contribute to a more consistent and objective application of environmental standards.

From the perspective of international environmental law, the effectiveness of legal obligations depends not only on their formal adoption but also on their practical implementation and enforcement. In this regard, improved monitoring mechanisms within the CAP may facilitate the realisation of commitments undertaken by the European Union under the Paris Agreement (United Nations, 2015) and the Convention on Biological Diversity. (United Nations, 1992)

However, effectiveness should not be equated solely with increased detection capacity. A monitoring system that prioritises surveillance without fostering substantive changes in agricultural practices may fail to deliver meaningful environmental benefits. The ultimate test of effectiveness lies in whether digital monitoring contributes to behavioural change and measurable improvements in environmental outcomes, such as reduced emissions or enhanced biodiversity.

Accordingly, the legal and institutional design of digital monitoring systems must strike a balance between efficiency, legality and environmental integrity. Without adequate

safeguards, there is a risk that technological innovation may reinforce administrative control while falling short of advancing the underlying objectives of environmental protection.

4 Critical Evaluation

The integration of satellite-based monitoring and AI-driven analysis into the CAP represents a significant transformation in the governance of agricultural subsidies, reflecting a broader shift towards the digitalisation of public administration. From an administrative perspective, these technologies offer clear advantages. They enable more comprehensive and continuous oversight of agricultural practices, reduce reliance on resource-intensive on-the-spot inspections and enhance the capacity of authorities to detect non-compliance at an early stage. (European Commission, 2023) In this sense, digital monitoring may strengthen the credibility, consistency and enforceability of environmental conditionality, addressing long-standing concerns regarding the limited effectiveness of CAP environmental measures. (European Court of Auditors, 2021)

However, these benefits must be assessed in light of the broader normative implications of this transformation. The increasing reliance on technologically mediated control mechanisms risks entrenching a model of technocratic governance, in which regulatory decisions are driven predominantly by data availability and algorithmic outputs rather than by contextual, case-specific assessment. While such systems are often presented as objective and neutral, they may embed underlying assumptions or biases that remain opaque to both administrators and regulated actors. This raises concerns regarding the legitimacy of decision-making processes, particularly where automated assessments significantly affect access to public funds and may limit the role of human judgement in administrative decision-making. (European Union, 2024)

Moreover, the expansion of continuous monitoring may give rise to what can be characterised as ‘surveillance-based compliance’. Unlike traditional enforcement mechanisms, which operate intermittently and are typically triggered by risk or suspicion, digital monitoring enables the systematic observation of all beneficiaries, irrespective of individual conduct. While the use of public funds justifies a certain level of oversight, the generalised nature of such monitoring may exceed what is strictly necessary to achieve regulatory objectives. From the perspective of the principle of proportionality—firmly embedded in EU law—this shift warrants careful scrutiny, as it may normalise a form of pervasive administrative surveillance within the agricultural sector. (Court of Justice of the European Union, 2014; 2015)

In addition, the distributional implications of digital monitoring should not be overlooked. Larger agricultural enterprises are generally better positioned to adapt to technologically complex compliance systems, possessing greater administrative capacity and access to advisory services. By contrast, smaller farmers may face disproportionate burdens in understanding and responding to automated notifications or navigating increasingly data-driven regulatory requirements. As a result, the digitalisation of CAP enforcement may inadvertently exacerbate existing structural inequalities, raising concerns from the perspective of fairness, accessibility and social sustainability within EU agricultural policy.

Finally, it is necessary to question whether digital monitoring, in itself, is capable of achieving the environmental objectives of the CAP. While improved detection of non-compliance enhances formal enforcement, it does not necessarily lead to substantive changes in agricultural practices. Environmental effectiveness depends not only on monitoring, but also on the design of incentives, the availability of support measures and the broader policy framework within which farmers operate. Without sufficiently ambitious eco-schemes and supportive transition mechanisms, monitoring risks functioning primarily as an instrument of control rather than as a driver of sustainable transformation. (Matthews, 2020)

In light of these considerations, digital monitoring should be understood not merely as a technical innovation, but as a normatively significant shift in regulatory paradigm. Its

legitimacy depends on the extent to which it is embedded within a legal and institutional framework that ensures transparency, accountability and respect for fundamental rights, while simultaneously promoting genuine environmental outcomes. This requires a careful balancing of efficiency and legality, ensuring that technological advancement supports, rather than undermines, the core objectives of environmental and agricultural policy.

Conclusion

The increasing integration of satellite-based monitoring and artificial intelligence into the Common Agricultural Policy reflects a broader transformation in the nature of regulatory governance within the European Union. As this paper has demonstrated, digital monitoring technologies fundamentally reshape the mechanisms through which environmental conditionality is enforced, shifting from traditional models of episodic inspection towards systems of continuous, data-driven oversight. In doing so, they offer significant potential to enhance the effectiveness, consistency and credibility of environmental compliance within the CAP framework.

However, this transformation is not merely technical in nature; it raises profound legal and normative questions concerning the relationship between technological innovation, administrative power and fundamental rights. The deployment of continuous monitoring systems entails an intensified form of state oversight, which must be carefully assessed against the requirements of proportionality, transparency and accountability under EU law. (European Union, 2016; 2024) As the analysis of the jurisprudence of the Court of Justice has shown, particularly in cases such as Digital Rights Ireland Ltd v Minister for Communications and Schrems v Data Protection Commissioner, large-scale and generalised data collection practices are subject to strict limitations and must be accompanied by robust safeguards to ensure compliance with fundamental rights. (Court of Justice of the European Union, 2014; 2015)

In this context, the legitimacy of digital monitoring within the CAP cannot be evaluated solely on the basis of administrative efficiency or technological capability. Rather, it depends on the extent to which such systems are embedded within a coherent legal framework that preserves procedural guarantees, ensures meaningful human oversight and provides effective avenues for redress. The increasing reliance on algorithmic decision-making in the allocation of public funds further underscores the need to safeguard the principles of due process and legal certainty, which remain central to the EU legal order.

At the same time, the contribution of digital monitoring to environmental objectives must be critically assessed. While enhanced detection of non-compliance may improve formal enforcement, it does not automatically translate into substantive environmental outcomes. The effectiveness of the CAP as an instrument of environmental governance ultimately depends on its capacity to induce behavioural change and to support the transition towards more sustainable agricultural practices. In this regard, monitoring technologies should be understood as complementary tools rather than substitutes for well-designed policy instruments, including ambitious eco-schemes and adequate support mechanisms. (Matthews, 2020)

From a broader perspective, the digitalisation of CAP enforcement illustrates the emergence of a new regulatory paradigm, characterised by the increasing reliance on data, automation and algorithmic governance. While this paradigm offers opportunities for more efficient and evidence-based policymaking, it also risks reconfiguring the balance between administrative authority and individual rights. Ensuring that this balance is maintained represents a key challenge for EU law in the coming years.

In conclusion, digital monitoring systems have the potential to significantly enhance the enforcement of environmental conditionality within the CAP. However, their long-term legitimacy and effectiveness depend on achieving a careful equilibrium between technological efficiency, legal safeguards and environmental integrity. Without such an equilibrium, there is

a risk that the digital transformation of agricultural policy may prioritise control over sustainability, thereby undermining both the normative foundations of EU law and the substantive environmental objectives it seeks to achieve.

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SECTION IV
DEVELOPEMENT COOPERATION

INTERNATIONAL E-PARTICIPATION MECHANISMS IN THE CONTEXT OF GOOD GOVERNANCE[1]

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Abstract: This paper is based on an international comparison of the level of e-government development, with an emphasis on the structure and components of the E-Government Development Index. Particular attention is paid to the e-participation sub-index, which reflects the degree of citizen engagement in public policy through digital tools. The paper analyses e-participation as a key element of the digital transformation of society and, at the same time, as a factor influencing the quality of good democratic governance. The paper aims to identify, through a comparative analysis of e-participation in selected countries, the factors supporting the leading positions of some countries and the dynamic progress of others in the field of e-participation.
Keywords: good governance, e-participation, e-government
JEL: Q58, H83, O38

Introduction

The development of digital technologies in recent years has had a profound impact on the functioning of public administration and the way the state communicates with its citizens. The digital transformation of society represents not only the technological modernisation of public services, but also a shift in the approach to public governance, in which citizen participation is playing an increasingly significant role. Digital transformation, therefore, cannot be understood as a one-sided process carried out exclusively by public institutions, but rather as a mutual interaction between the state and the public, which is one of the fundamental principles of e-government. In this process, citizens act not only as passive recipients of digital services but also as active participants in digital change and public decision-making (Umbach a Tkalec, 2022).

In the context of digital transformation and e-government, policymakers and public administration managers are increasingly emphasizing the need to focus technological changes on the public and its needs, so that digital transformation delivers tangible benefits to citizens and organizations (Kuhlmann and Heuberger, 2023; Datta et al., 2020). The significance of digital transformation also lies in the fact that organizations are increasingly using digital technologies to create socially significant value (Haug et al., 2024; De Haes et al., 2020). In this context, the concept of good governance also gains significance, as its principles - such

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as participation, transparency, accountability, and efficiency - are increasingly implemented in the context of digital transformation through e-government and e-participation tools (Yang et al., 2024; Eom and Lee, 2022). The principles of good governance remain unchanged even in the context of digital transformation; however, the manner of their implementation is changing, as traditional forms of public administration are increasingly being supplemented and developed through digital tools and technologies. Current research is therefore increasingly linking the topics of digital transformation, e-government, and participation, or e-participation, as an integral part of modern democratic governance (Atar et al., 2025; Lee-Geiller, 2024; Stratu-Strelet et al., 2021).

This paper focuses on an international comparison of e-participation levels in the context of e-government development, with particular attention paid to the E-Government Development Index (EGDI) and its e-participation sub-index (EPI). The aim of the paper is to identify the factors supporting the leading position of selected countries in the field of e-participation and to highlight the importance of e-participation as a tool for fulfilling the principles of good governance in the context of society's digital transformation. The paper is based on a secondary analysis of international reports, indices, and expert sources for the period 2018–2024, with the aim of capturing the main trends in the field under study.

1 Assessing and Comparing the Level of Digital Transformation Across Countries

The level of digital transformation in countries can be assessed using various international indices and rankings that track different aspects of digital transformation, such as technological infrastructure, digital skills, citizen engagement in public decision-making, etc. Some of the most common and frequently cited include:

- GTMI (GovTech Maturity Index),
- DESI (Digital Economy and Society Index),
- EIS (European Innovation Scoreboard),
- RIS (Regional Innovation Scoreboard)
- and EGDI (E-Government Development Index).

The GTMI (GovTech Maturity Index) is an index compiled by the World Bank that assesses the level of digital transformation in the public sector across countries. It tracks four areas: core government systems, online services for citizens, digital citizen engagement, and enabling factors (e.g., legislation or digital skills), comprising a total of 48 indicators. Data is collected from questionnaires completed by countries and from publicly available sources. The report emphasises that the GTMI is not a ranking as such but a diagnostic tool designed to identify gaps and highlight best practices applicable to digital transformation. Countries are divided into four categories based on their level of maturity: A (very high), B (significant), C (moderate), and D (low), with the Slovak Republic classified in category B in 2025 (World Bank Group, 2025).

The Digital Economy and Society Index (DESI), compiled by the European Commission, assesses the level of digitisation and digital competitiveness of European Union member states based on 33 indicators. It tracks four main areas: human capital, connectivity, integration of digital technologies, and digital public services. The index makes it possible to assess a country's overall state of digitisation, identify weaknesses, and compare individual countries with one another (Ministry of Investments, Regional Development and Informatization of the Slovak Republic, 2026). Since 2023, in line with the policy program Digital Decade 2030, the DESI index has been incorporated into the Digital Decade Progress Report and serves to track progress toward achieving the set digital goals within the European Union and its individual member states (European Commission, 2024). Within its main areas, the DESI index tracks several key components that are measured. In the area of digital skills,

for example, it includes internet usage, the level of digital skills, and the number of ICT specialists. Digital infrastructure is assessed through internet availability, high-speed connectivity, 5G coverage, and the development of modern networks. In the business sector, the use of technologies such as cloud computing, artificial intelligence, data analytics, and e-commerce is monitored. The final area focuses on digital public services, such as the use of e-government, the quality of online services, transparency, and access to electronic health records (European Commission, 2025c).

The European Innovation Scoreboard (EIS) is a tool developed by the European Commission that assesses and compares the performance of European Union countries in the areas of research and innovation with the aim of identifying their strengths and weaknesses. It is based on 32 indicators divided into four main areas: framework conditions (e.g., education and digitalisation), investment (e.g., research and IT spending), innovation activities (e.g., collaboration and patents), and impacts (e.g., employment and exports) (European Commission, 2025a).

The Regional Innovation Scoreboard is a tool that compares research and innovation performance across regions in the European Union and Europe, helps identify their strengths and weaknesses, and allows for the interactive tracking and comparison of trends over time, with results benchmarked against the European Union average for 2018 (European Commission, 2026a). The Regional Innovation Scoreboard (RIS) measures indicators similar to those in the EIS, adapted to the regional level. They are divided into four main areas: framework conditions (e.g., proportion of people with a university education, lifelong learning, scientific publications, and digitization), investment (research expenditure in both the public and private sectors, innovation expenditure, cloud computing, and ICT employment), innovation activities (e.g., innovative SMEs, business collaboration, patents, trademarks, and designs), and impacts (sales of innovations, employment, exports of technology products, labor productivity, and environmental indicators). Overall, RIS uses approximately 23 indicators available at the regional level (European Commission, 2025b).

Of the various methods for evaluating and comparing countries mentioned above, the E-Government Development Index (EGDI) is particularly relevant to this article. The Index is a United Nations tool that assesses the level of digitalisation of public administration in individual countries and compares them with one another. It is based on three main areas: online services, telecommunications infrastructure, and human capital. Data is collected from evaluations of national websites and supplemented with indicators of a country's readiness for a digital society. The resulting score is the average of these three components, and countries are subsequently classified into four levels ranging from low to very high levels of e-government (The United Nations, 2026a). Special attention will be given to the e-Participation Index (EPI), which serves as a complementary indicator to the EGDI and focuses on the quality of digital interaction between the state and citizens. Unlike the overall e-government assessment, it focuses exclusively on the participatory dimension of digital transformation and shows how effectively countries support online interaction between the government and the public. This supplementary UN indicator assesses how countries use digital tools to engage citizens in public decision-making processes. The EPI tracks three levels of participation:

- provision of information (e-information),
- engaging citizens in discussion (e-consultation),
- and their active participation in policy-making (e-decision-making) (The United Nations, 2026b).

The examples mentioned above of methods for evaluating and comparing countries with a focus on various components of society's digital transformation highlight the fact that

the level of a country's digital transformation can be assessed from multiple perspectives, each of which focuses on different aspects of digitisation. While DESI, EIS, and RIS provide a broader view of countries' digital and innovation performance, the e-Government Development Index (EGDI) specifically focuses on the public administration's digital transformation.

This paper places particular emphasis on the e-participation index, which serves as a supplementary indicator of the EGDI and focuses on the extent to which citizens engage in public decision-making through digital tools. It is precisely this aspect that is significant for assessing the quality of interaction between the state and citizens in the context of society's digital transformation.

2 E-participation as an essential component of current democracies

Participation is one of the key components of contemporary democratic societies and is also enshrined as one of the twelve principles of good democratic governance defined by the Council of Europe. In this regard, the principle of democratic participation is associated primarily with a fair electoral process, the principles of democratic representation, freedom of expression, participation of all segments of the population in the democratic process, and citizen participation in policy-making processes (Council of Europe 2026).

In the context of society's digital transformation, these principles are increasingly being applied through e-participation, which represents an extension of deliberative democracy into the digital environment. The use of information and communication technologies enables broader citizen engagement in public processes and fosters a more open, inclusive, and transparent public discourse (Przeybilovicz and Webler 2026). E-participation is a multi-level process, ranging from the provision of information, through consultations, to the active participation of citizens in the formulation of public policies. Its essence lies in enabling citizens to express their views and needs, thereby helping public administration make better decisions while strengthening trust between the state and the public (Johannessen, Edelmann, Berntzen 2024). The development of e-participation depends primarily on three key areas: acceptance, interaction, and participation itself. User acceptance is a fundamental prerequisite that encompasses factors such as trust, security, service quality, and the attitudes of public administration employees. Interaction highlights the importance of high-quality design and the usability of digital tools, as confusing or poorly designed systems can deter citizens from using them. Participation itself has the potential to improve the quality of decision-making and strengthen democratic processes; however, its development faces several challenges, such as a lack of empirical evidence, unclear models of participation, or insufficient support from public institutions (Adnan, Ghazali, Othman 2022). E-participation thus represents a natural extension of traditional forms of citizen engagement and, at the same time, an effective tool for their practical application in the context of society's digital transformation.

In the context of the Slovak Republic, digital tools such as consider.it, Airesis, Wikibudgets, TrashOut, and Odkaz pre starostu enable public institutions to increase public awareness and encourage citizen engagement in public affairs. These tools form the basis of a broader range of e-participation solutions and contribute to strengthening the openness of public administration (Office of the Plenipotentiary of the Government of the Slovak Republic for the Development of Civil Society, 2026). Traditional online participation tools also include social networks, blogs, and microblogs, which enable the dissemination of information and public engagement in discussions (Slovak Youth Council, 2018). As society's digital transformation gradually advances and becomes more sophisticated, tools supporting e-participation are also evolving and being supplemented by a new generation of e-participation tools that enable interactive citizen engagement through proposal evaluation, argumentation, and moderated discussions. These tools thus reflect a shift from passive

information reception to active participation, as they enable not only the publication of proposals but also their evaluation, the presentation of arguments "for" and "against," and the moderation of online discussions (Ministry of the Interior of the Slovak Republic 2026).

At the regional level within Slovakia, e-participation is still in its early stages and is used primarily for basic activities such as online data collection and communication with the public. Although digital tools such as SharePoint are used, these are relatively new solutions that have not yet been fully implemented in the development of many policies, and at the same time, clear guidelines for cooperation and communication between departments are often lacking (Šestáková and Mravcová 2023). Young people's participation in public life in Slovakia does not mean only voter turnout, but also their involvement in various social and decision-making activities. Although their voter turnout has increased slightly, overall political engagement among young people remains low in the long term. Their interests are represented by youth organisations, and they have some scope to influence policies, particularly in the drafting of strategic documents. Participation is also supported by school parliaments, academic senates, various youth programs, and non-governmental organisations. Digital forms of engagement and systematic support for participation are fragmented across public administration organisations in terms of their use and depend primarily on the activity of local and regional governments. In 2026, Slovakia does not have a standalone digital tool designed exclusively for youth e-participation. Youth participation is thus implemented rather indirectly and without a unified national solution. Electronic participation in Slovakia is supported primarily through general digital tools such as Slov-Lex, open-source platforms like Decidim, or local government tools (European Commission, 2026b). The Decidim platform is an example of an advanced e-participation tool that supports participatory democracy through digital solutions and enables citizens to actively engage in decision-making processes. It provides digital tools as well as a broader ecosystem of methodologies, a legal framework, and community collaboration (Decidim, 2026). In Slovakia, it has been implemented in the city of Banská Bystrica, where it serves to support participatory budgeting and open government. This initiative is part of broader efforts to develop participation under the Open Government Action Plan for 2024–2026 (Bystricoviny, 2026). The Open Government Action Plan for 2024–2026 serves as an implementation tool for the Open Local Government Strategy through 2030 and emphasises the development of participation, innovation, and digital tools for public engagement (OGP 2024).

At the international level, we can also find examples of cities such as Barcelona and Helsinki, where e-participation through the Decidim platform has reached a higher level of development. In these cases, there is an effective integration of online and offline participatory tools, leading to higher levels of citizen engagement and improved quality of public policies (Aragón et al., 2017; Ertiö, Tuominen, Rask, 2019). A good example from a geographically closer context is Prague, where participatory budgeting has been developed through a combination of digital tools and local initiatives via the FloweeCity.cz platform and various municipal web and smartphone applications. These platforms enabled citizens to submit proposals, monitor city data, and actively engage in decision-making processes at the local level (Velinov, Ashmarina, Zotova, 2020).

The potential of e-participation can be effectively used in the Central European region as well, suggesting that there is room for its more intensive development in Slovakia as well. In the context of society's digital transformation, e-participation is increasingly emerging as a key tool for implementing the principles of good governance. It is no longer merely a supplementary element, but an integral part of modern public administration that enables active citizen engagement, increases transparency, and contributes to more effective decision-making.

3 International comparison of e-participation

Comparing e-participation at the international level makes it possible to identify which countries are most effective at engaging citizens in public decision-making in the digital environment and what factors underlie their success. This section of the paper focuses on the development of the top-ranked countries according to the E-Government Development Index (EGDI) between 2018 and 2024 in relation to the complementary E-Participation Index (EPI) assessment tool. A comparison of the development of the top-ranked countries in the EGDI highlights those countries (Table 1) that have consistently achieved a high level of public administration digitalisation. This overall view is subsequently supplemented by an analysis of the E-Participation Index (EPI), which focuses on the specific aspect of citizen engagement in public decision-making (Table 2). While the EGDI reflects the overall level of e-government, the EPI allows for a closer examination of the participatory dimension of digitalisation and identifies the countries that achieve the best results in this area.

Table 1: Best-performing countries in the e-Government Development Index (2018 – 2024)

Year	*Country 1. rank*	*EGDI value*	*Country 2. rank*	*EGDI value*	*Country 3. rank*	*EGDI value*
2018	Denmark	0.9150	Australia	0.9053	Republic of Korea	0.9010
2020	Denmark	0.9758	Republic of Korea	0.9560	Estonia	0.9473
2022	Denmark	0.9717	Finland	0.9533	Republic of Korea	0.9529
2024	Denmark	0.9847	Estonia	0.9727	Singapore	0.9691

Source: Own elaboration based on Country Data, by The United Nations, 2026c. https://publicadministration.un.org/egovkb/Data-Center

According to the United Nations' E-Government Survey 2024 (The United Nations, 2024), the three global leaders in digital government are Denmark, Estonia, and Singapore. All three countries are in the top performance tier (VH) within the group, with a very high E-Government Development Index (EGDI):

- Denmark has defended its position as a global leader for the fourth consecutive assessment. In 2024, it achieved an overall EGDI score of 0.9847, with a near-perfect score of 0.9992 on the Online Services Index (OSI). Its strategy focuses on comprehensive digital portals such as borg.dk (for citizens), virk.dk (for businesses), and sundhed.dk (healthcare). The National Digital Strategy (2022–2025) emphasises collaboration between the public and private sectors and the exploration of technologies such as AI, robotics, and 5G to improve services and support the green transition.
- Estonia maintains its position as a pioneer thanks to long-term investments in digital infrastructure and an innovative approach. The EGDI score is 0.9727, with an exceptionally high level of online services (0.9954). The country has developed a sophisticated digital identity system that enables seamless online access to nearly all public services. Estonia focuses on proactive services that anticipate citizens' needs and on ensuring digital accessibility and inclusion for all demographic groups.
- Singapore became the highest-ranked country in Asia and moved up to third place in the global rankings. In 2024, Singapore achieved an EGDI score of 0.9691. As many as 99% of government services in Singapore are fully digital. Through the national digital identity Singpass, citizens have access to more than 2,700 services from over 800 agencies and companies. The Smart Nation initiative (launched in 2014) and the National AI Strategy (2021) use advanced data analytics to increase efficiency in sectors such as healthcare

and transportation. Singapore also uses the single source of truth (SSOT) concept for government data integration.

Table 2: Best-performing countries in the e-Participation Index (2018 – 2024)

Year	*Country 1. rank*	*EPI 2024 value*	*Country 2. rank*	*EPI 2024 value*	*Country 3. rank*	*EPI 2024 value*
2018	Republic of Korea	1.0000	Denmark	1.0000	Finland	1.0000
2020	Estonia	1.0000	Republic of Korea	1.0000	United States of America	1.0000
2022	Japan	1.0000	Australia	0.9886	Estonia	0.9773
2024	Ukraine	1.0000	Japan	0.9863	Denmark	0.9863

Source: Own elaboration based on Country Data, by The United Nations, 2026c https://publicadministration.un.org/egovkb/Data-Center

A comparison of the analysed data (Table 1 and Table 2) suggests that a high level of public administration digitalisation does not necessarily translate into the highest level of e-participation. While some countries, such as Denmark and Estonia, rank among the leaders in both indices, other countries dominate primarily in the area of e-participation, which highlights differing approaches to engaging citizens in digital governance.

Ukraine is the most striking example of the ability to utilize e-participation even under crisis conditions. It was the only country to achieve the maximum EPI score (1.0000) in 2024, demonstrating the effective use of digital tools to communicate with citizens and engage them in public processes even during an ongoing conflict. It is precisely this ability to maintain digital interaction between the state and the public under challenging conditions that has contributed to its status as a global leader in e-participation (The United Nations, 2024).

To identify success factors in the area of e-participation, Table 3 lists the countries with the highest scores on the E-Participation Index (EPI) for 2024. Since the EPI is a complementary indicator of the E-Government Development Index (EGDI), its results are closely linked to the overall level of public administration digitalisation. For this reason, these countries are also analysed through the main components of the EGDI, specifically telecommunications infrastructure (TII), human capital (HCI), and the quality of online services (OSI).

Table 3: Key factors for the top countries in 2024, according to EPI

Country	*EPI 2024*	*TII 2024 (Telecommunication Infrastructure Index)*	*HCI 2024 (Human Capital Index)*	*OSI 2024 (Online Service Index)*	*Dominant indicator (TII / HCI / OSI)*	*Main success factors*
Ukraine	1.0000	0.8428	0.8240	**0.9854**	OSI	Crisis management and citizen mobilization
Japan	0.9863	**0.9509**	0.9117	0.9427	TII	Cutting-edge technologies and innovation
Denmark	0.9863	0.9966	0.9584	**0.9992**	OSI	Strategic leadership and stability
Republic of Korea	0.9726	0.9917	0.9120	**1.0000**	OSI	Technical excellence of online platforms
Germany	0.9726	0.9236	**0.9672**	0.9238	HCI	Strong institutionalisation of e-participation processes

United Kingdom of Great Britain and Northern Ireland	0.9726	**0.9747**	0.9450	0.9535	TII	Global transformational leadership

Source: Own elaboration based on Country Data, by The United Nations, 2026c. https://publicadministration.un.org/egovkb/Data-Center; United Nations E-Government Survey 2024 Accelerating Digital Transformation for Sustainable Development With the addendum on Artificial Intelligence, 2024, https://publicadministration.un.org/en/

Table 3 highlights the key success factors of the countries that achieved the highest scores on the e-Participation Index (EPI) in 2024. It also suggests that a high level of e-participation results from a combination of several factors, primarily high-quality online services (OSI), a developed telecommunications infrastructure (TII), and a high level of human capital (HCI). In most of the countries analysed, the quality of online services plays a dominant role, confirming the importance of user-oriented digital platforms for effectively engaging citizens in public decision-making.

In 2024, Ukraine achieved the highest EPI score (1.0000), with the Online Services Index (OSI 0.9854) being the dominant factor. Its success is primarily linked to its ability to effectively utilize digital tools in crisis management and communication with citizens during the ongoing conflict (The United Nations, 2024). Denmark and the Republic of Korea also underscore the importance of high-quality online services, as both countries achieved nearly maximum OSI scores. In the case of the Republic of Korea, this is primarily due to technical sophistication and a high level of digital platforms, while Denmark benefits from stable strategic management and long-term digital policy (The United Nations, 2024).

Japan and the United Kingdom achieve high scores, particularly in the area of telecommunications infrastructure (TII), which highlights the importance of technological readiness and modern digital networks as a prerequisite for the development of e-participation. Germany differs from other countries in that human capital is the dominant factor (HCI 0.9672), which underscores the importance of education, digital skills, and the institutional framework for participatory processes.

Success in the field of e-participation depends not only on technological infrastructure, but above all on the government's ability to create high-quality digital services, foster citizens' trust, and effectively link technological tools with real-world participatory processes.

Table 4: EGDI and EPI development in the Slovak Republic (2018 – 2024)

Year	*EGDI*	*Value*	*Rank*	*EPI*	*Value*	*Rank*
2018		0,71550	49.		0,80900	50.
2020		0,78170	48.		0,70240	70.
2022		0,80080	47.		0,46590	83.
2024		0,80214	60.		0,69860	53.

Source: Own elaboration based on Slovakia, by The United Nations, 2026d https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/155-Slovakia

The development of the E-Participation Index (EPI) and the overall EGDI from 2018 to the present (2024) shows contrasting trends in the Slovak Republic. While the overall technical level has been rising, the rate of e-participation has experienced a significant decline, followed by a recovery. The overall quality of digital services in the Slovak Republic (as measured by the index value) has been steadily increasing since 2018. In 2024, however, a significant decline in overall ranking was recorded (from 47th to 60th place), indicating that other countries were making faster progress than the Slovak Republic. The trend

in the e-participation indicator is less stable in terms of progress. After a sharp decline in 2022, the negative trend was reversed in 2024, and the country moved up 30 positions in the ranking.

An analysis of global leaders in e-participation yields several recommendations for the Slovak Republic that should shape its future digital transformation. First and foremost, the Slovak Republic should take inspiration from Ukraine and the Republic of Korea in emphasising high quality and user-centricity in online services (OSI), which have proven to be a dominant factor in successfully engaging citizens in public affairs. It is also essential to strengthen strategic leadership and the stability of digital policies, following Denmark's example, which could help stabilize the previously fluctuating trend of Slovakia's EPI index. At the same time, the example of Germany highlights that technological infrastructure alone is insufficient, and successful e-participation also requires strong institutionalisation of participatory processes and support for human capital. Overall, Slovakia needs to more effectively link digital tools with the actual engagement of citizens in public administration decision-making processes.

Conclusion

The paper focused on e-participation as a significant component of society's digital transformation, particularly in public administration, and as an important element linked to the principles of good governance. Through an analysis of the EGDI and EPI indices, it was demonstrated that a high level of e-participation is not solely dependent on technological infrastructure, but primarily on high-quality online services, strategic digital leadership, support for human capital, and the effective integration of digital tools with real-world decision-making processes. Key success factors include, in particular, high-quality online services, technological innovation, strategic management of digital transformation, and systematic support for participatory processes.

The analysis also highlighted the unstable development of e-participation in recent assessments for the Slovak Republic. For further development, it will therefore be essential to strengthen citizens' trust in digital tools, develop user-oriented online services, and support citizen participation in the digital environment. A key area for further research is examining the impact of digital participatory tools on the quality of decision-making and the effectiveness of public administration.

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CURRENT TRENDS IN DEVELOPMENT COOPERATION WITH A FOCUS ON NON-DAC DONORS[1]

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Abstract: This article analyses current trends in development cooperation, with a particular focus on the growing importance of donors outside the OECD Development Assistance Committee (non-DAC donors). The aim of the study was to evaluate the activities of these donors and assess their impact in the context of global changes in development financing and the challenges faced by traditional development cooperation mechanisms. The study employed qualitative content analysis of academic literature, complemented by semi-structured interviews with experts. The findings revealed that non-DAC donors do not constitute a homogeneous group and that their strategies vary depending on national contexts and institutional settings. Identified risks include limited transparency, inadequate monitoring of outcomes, selective allocation of aid, volatility of financial resources, and support for authoritarian governments. At the same time, several areas of relative effectiveness were identified, particularly the rapid implementation of projects, lower levels of aid fragmentation, and the ability to operate in regions where traditional donors have limited presence. The findings highlight the importance of coordination with other flows of external capital, the role of multilateral mechanisms, and the need for a differentiated assessment of donors operating outside traditional aid frameworks.
Keywords: development cooperation, official development assistance, non-DAC donors, aid effectiveness
JEL: F35, F59, O20

Introduction

Development cooperation became significantly institutionalised after the end of the Second World War, particularly through the countries associated within the OECD Development Assistance Committee (DAC), which defined the standards of Official Development Assistance (ODA). As Scott (2015) notes, the roots of ODA date back even before the establishment of the DAC Committee, namely to its predecessor, the so-called Development Assistance Group (DAG), founded in 1960 on the initiative of the United States. DAG primarily focused on improving information on financial assistance for developing countries and on setting political objectives aimed at increasing the volume, quality, and effectiveness of aid. The harmonisation and liberalisation of aid conditions, especially through grants or concessional loans with long maturities, became key principles in shaping the ODA system, which DAC gradually defined between 1965 and 1972. Since 1965, DAC has established specific targets regarding the concessionality of loans and the share of grants in total ODA, thereby creating the foundations for a unified system of measuring and monitoring donor aid within the committee.

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In recent years, the importance of donors outside the DAC, referred to as non-DAC donors, has been increasing. According to Calleja et al. (2022), these are donors that are not DAC members but possess institutionalised structures. Institutionalisation means that a country has established structures, personnel, and at least a partial strategy or policy for managing development cooperation, signalling a long-term commitment and engagement. According to Calleja et al., similar behavioural patterns can be observed among non-DAC donors within particular income groups and regions. A country's income level and domestic political conditions influence the form of assistance, while political and economic factors affect the scope of cooperation and the choice of forums used for bilateral or multilateral assistance. Most non-DAC providers are open to cooperation. However, existing barriers and issues of effectiveness remain major challenges, particularly in the context of growing global political tensions.

Objectives and Methodology

The aim of this article is to analyse current trends in development cooperation from the perspective of donors, with a particular focus on non-DAC donors and on how their activities are evaluated in academic literature and by experts. The article seeks to capture the broader transformation of development cooperation, identify current threats and opportunities, and highlight the factors influencing the effectiveness and direction of this instrument in a changing global environment.

To achieve these objectives, a combination of two qualitative methods was used. The first method consisted of a qualitative content analysis of academic publications focused on evaluating the risks and opportunities associated with development cooperation implemented by selected non-DAC donors. The second source of data consisted of three semi-structured interviews, which complemented the findings from the literature with practical perspectives. In accordance with the ethical principles of qualitative research, the respondents' identifying information was anonymised, and they are referred to in the text as Respondent 1 to Respondent 3. The respondents were selected based on their experience in academia, public administration, and the field of development cooperation, combining both academic and professional expertise in order to capture different perspectives on the issue under study. Specifically, the respondents included a representative of academia, a former employee of DG ECHO and a development organisation, and a representative of public administration who is also active in academia.

The limitations of the research stem mainly from the qualitative nature of the analysis and from the uneven availability of data on the activities of non-DAC donors. The findings therefore primarily serve to identify the main trends, risks, and opportunities rather than to generalise these findings to all donors outside the DAC framework.

1 Literature Review

In recent years, increasing attention has been paid to the importance of donors outside the DAC within development studies, as their growing direct and indirect influence in the Global South presents new challenges and opportunities for traditional DAC donors and international institutions. The activities of these donors often extend beyond the criteria defined by the OECD DAC, creating the need to assess the extent to which their approaches correspond to established international standards and norms of development cooperation. The available literature highlights the diversity of their approaches, including political, economic, and strategic motivations that frequently shape the priorities and forms of aid provided. The discussion surrounding donors outside the DAC committee therefore raises questions about the effectiveness of traditional mechanisms for coordinating international aid and about

the possibilities for cooperation or emerging conflicts between different types of donors (Kim & Lightfoot, 2011).

In the literature, non-DAC donors are generally understood as countries that are not members of the DAC but provide ODA either bilaterally or through multilateral mechanisms. For example, UNCTAD (2025), in its publication *Aid at the Crossroads: Trends in Official Development Assistance*, identifies the following countries as non-DAC donors: Algeria, Azerbaijan, Bulgaria, Taiwan, Croatia, Cyprus, Iraq, Israel, Kazakhstan, Kuwait, Latvia, Libya, Liechtenstein, Malta, Mexico, Monaco, Qatar, Romania, Russia, Saudi Arabia, Thailand, Timor-Leste, Türkiye, and the United Arab Emirates (UNCTAD, 2025).

In the literature, the terms "new donor," "emerging donor," and "non-DAC donor" are sometimes used interchangeably, although they may refer to different groups of donors. According to Ferry and Swedlund (2022), "emerging donors" can be divided into three main categories. The first group consists of so-called DAC-like donors, such as Russia, Türkiye, and Thailand, which are not formal DAC members but follow some DAC principles and often report part of their cooperation activities through OECD reporting standards. The second group includes Arab model donors, such as Saudi Arabia, Kuwait, and the United Arab Emirates, which report part of their cooperation activities similarly to OECD donors, while their policies are strongly influenced by social solidarity and religion. The third group includes countries of the Global South or donors involved in South-South cooperation, such as China, India, Brazil, Chile, and Colombia, which often reject DAC reporting, prefer partnerships to the traditional donor-recipient model, and emphasise state sovereignty and non-interference in the internal affairs of recipient countries. The authors emphasise that emerging donors are highly heterogeneous even within these categories and that many of them have been providing cooperation since the 1950s. For example, the concept of South-South cooperation can be traced back to the Bandung Conference and the Non-Aligned Movement.

For the purposes of this article, non-DAC donors are therefore examined as a broader category encompassing all donors outside the DAC, while recognising the existence of several heterogeneous subgroups within this category. According to the World Bank (2008), non-DAC donors represent a highly heterogeneous group, with the main challenges associated with these donors being the limited availability of data on the volume and conditions of their aid, as well as differing approaches to harmonisation, meaning the coordination of aid among donors and recipients. The World Bank divides non-DAC donors into four groups: (i) OECD countries that are not DAC members, such as the Republic of Korea, Mexico, Türkiye, and several European countries; (ii) EU member states that are not yet OECD members; (iii) Middle Eastern and OPEC countries, particularly Saudi Arabia; and (iv) non-OECD donors not belonging to the previous groups, including Brazil, China, India, and Russia.

Regarding the assessment of development cooperation provided by donors, the key reference frameworks are the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. Through the Paris Declaration (2005), donor countries committed themselves to adopting certain standards that also enable the identification of key areas and indicators relevant for evaluating the effectiveness of development assistance. Within the Paris Declaration, these principles are summarised through five main areas. Ownership means that the recipient country fully controls its development strategies, budgets, and capacities, and that aid should support its own plans, while it is important to assess whether the country has clearly defined national strategies. Alignment means that donors adapt their cooperation activities to national systems, use public financial and procurement mechanisms, harmonise projects, and provide predictable and untied aid. Harmonisation refers to cooperation among donors, the sharing of information, and the use of common procedures and analytical tools in order to reduce project duplication. Managing for Results focuses on measurable impacts and progress in programme performance, making it important to evaluate whether transparent and measurable assessment frameworks exist and whether results are monitored within sectoral and national strategies. Mutual

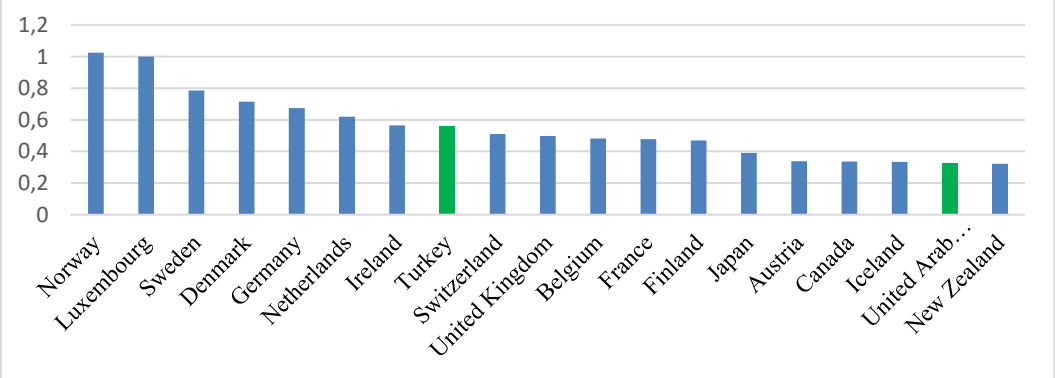
accountability means that both the recipient country and donors share responsibility for the effective use of aid and regularly evaluate the fulfilment of commitments through common assessment mechanisms.

Easterly and Williamson (2011) provide an important academic contribution to the evaluation of donors providing development cooperation. Their approach is largely based on the principles of the Paris Declaration (2005) and the Accra Agenda for Action (2008), while also transforming these frameworks into a concrete methodological evaluation across five key dimensions: transparency, specialisation, selectivity, channel effectiveness, and overhead costs. These dimensions provide a systematic framework for identifying the strengths and weaknesses of donors and allow for objective comparison. Transparency in this context refers to the accessibility of information on the functioning of donor channels for external observers, including the public and academics. For example, it assesses the extent to which data on personnel capacities, administrative costs, budget expenditures, salaries, and benefits are publicly available, thereby enabling their monitoring and evaluation. Data on operational or overhead costs represent another relevant indicator. High overhead costs may indicate inefficiency, although the optimal ratio is not zero, since well-managed development activities require adequate funding for managerial and administrative processes such as project monitoring, evaluation, and planning. Specialisation and fragmentation are additional dimensions under consideration, as duplicated initiatives and excessively fragmented donor activities reduce aid effectiveness. This concept is consistent with the Paris Declaration and the Accra Agenda, both of which emphasise donor coordination and the minimisation of transaction costs. Channel effectiveness is assessed, for example, through the use of tied aid, food aid, or technical assistance, which may increase administrative burdens and limit ownership and alignment with national priorities, again reflecting the principles of the Paris Declaration.

2 Key Aspects of Development Cooperation among Non-DAC Donors

Before examining the results of the analysis, it is important to consider which donors currently allocate the highest share of official development assistance (ODA) relative to their gross national income (GNI). This indicator is widely used as a measure of a donor's commitment to international solidarity and development cooperation. The data presented in *Figure 1* indicate that, in 2024, the highest shares were observed primarily among Northern European countries. Although this indicator does not reflect the absolute volume of aid provided, it is relevant in terms of a country's overall public expenditure. Consequently, only two non-DAC donors, namely Türkiye and the United Arab Emirates appeared among the top twenty donors. However, these data may not be complete, as will be discussed in greater detail in the following sections of this chapter.

Figure 1: Countries with the highest share of ODA as a percentage of GNI (grant equivalent) among DAC (blue) and non-DAC (green) donors in 2024



Source: Prepared by the author based on data from:
https://www.oecd.org/en/topics/official-development-assistance-oda.html [online]. 2025

As previously mentioned, the group of non-DAC donors is becoming an increasingly important part of the development cooperation architecture. Although these are not entirely new actors, analysing this group has become particularly relevant at a time when even traditional donors are experiencing significant changes in ODA flows, while the importance and scale of non-DAC donors' activities continue to grow. We analysed a selected sample of academic articles focusing on this area. *Figure 1* showed that only two non-DAC countries appeared among the top twenty donors. However, it is important to note that accurate reporting of development cooperation activities remains a common challenge among non-DAC donors, meaning that these statistics may also be incomplete. In their analysis of non-DAC donors, Sritharan, Malik and Sami (2024) highlighted that their study relied exclusively on a single official data source provided by each respective country. However, this source did not include sectoral definitions or classifications aligned with OECD standards, including distinctions between development assistance and humanitarian aid. As a result, the activities of non-DAC donors are generally more difficult to compare with those of OECD donors. In this context, the authors agree that non-DAC donors demonstrate very low levels of transparency in aid reporting. Data on aid provided by Gulf donors are often only partially available, inconsistent, and lacking transparency, while Saudi Arabian data are frequently not geocoded, making it impossible to accurately track where aid is directed. Sectoral definitions do not meet OECD standards, and relevant methodological documentation is also lacking.

Non-DAC donors are among the least transparent actors, and their decision-making is often driven by the promotion of national interests or ideological preferences. In contrast, traditional bilateral DAC donors are considered the most transparent, while newly assessed bilateral non-DAC donors represent the least transparent group (Palagashvili & Williamson, 2021). Aid decision-making in Arab countries is often highly centralised and influenced by informal and non-transparent practices, while the religious tradition of almsgiving (*zakat*), which emphasises anonymity, is perceived as conflicting with principles of accountability and transparency (Dandashly & Kourtelis, 2023). Problems related to reporting can also be observed among BRICS countries, particularly in the case of China, where they are associated with insufficient oversight of loans, corruption, misuse of resources, and the emergence of debt traps (Heleta, Cochrane & Al-Mannai, 2025). BRICS countries often combine grants, technical assistance, loans, and investments to such an extent that the boundaries between these instruments become blurred. This approach reduces transparency because it makes it more difficult to clearly track conditions, accountability, and financial flows. As a result, oversight becomes more difficult and creates conditions for corruption and the emergence of debt traps in recipient countries. Critics therefore emphasise the need for stronger oversight and greater capacity to exert political pressure on states that fail to comply with agreed commitments (Tapscott, Jing & Puppim de Oliveira, 2020). As noted by Dandashly and Kourtelis (2023), although interest in small donors is increasing, academic literature mainly focuses on small donors within the EU. For this reason, the area of small Arab donors remains relatively underexplored, with discussions often highlighting the risk of aid volatility resulting from fluctuations in oil prices.

Another aspect frequently discussed in academic literature on the development cooperation of non-DAC donors concerns their geopolitical motivations. However, these represent not only potential risks, as the creation of strategic partnerships may benefit both recipients and donors. Nevertheless, some links between development cooperation and geopolitical interests may be perceived as potential threats. Dandashly and Kourtelis (2023) highlight the example of Kuwait, which presents itself as a consistent and effective actor using its resources to build strategic alliances while also deliberately supporting the most vulnerable countries in the MENA region and more broadly across Muslim countries in Africa and Asia. These strong alliances provide Kuwait with a respected and influential position in regional

affairs. Heleta et al. (2025) point out that the allocation of foreign aid is influenced by donors' strategic interests, which may conflict with the needs of recipients and result in unequal or inefficient allocation of resources. Similar arguments regarding the Gulf region are also made by Tapscott, Jing and Puppim de Oliveira (2020). Semrau and Thiele (2017) draw attention to the geopolitical motivations behind Brazilian development cooperation. Although Brazil is not strictly a new donor, it belongs to the group of non-DAC donors. Its ODA has traditionally been concentrated on neighbouring countries in Latin America. Even though development cooperation was officially managed by a development agency under the Ministry of Foreign Affairs, this institution had only limited authority to initiate projects and became primarily responsible for implementing agreements originating from the presidential office. While Brazil's approach was accompanied by rhetoric focused on Global South solidarity, reducing global inequalities, and non-interference in domestic affairs, the authors emphasise that it also served to strengthen Brazilian soft power and increase the country's influence in the region. Within the context of geopolitical motivations, support for authoritarian regimes represents a significant concern. Dandashly and Kourtelis (2023) argue that such support is often directed towards groups or regimes with similar religious, ethnic, or cultural beliefs. Assistance to these actors may take the form of grants or loans that support authoritarian governments, thereby enabling these regimes to secure their political survival. In this context, the authors also frequently referred to the strong geographical concentration of projects.

The issue of conditionality in development cooperation is a common subject of debate in academic literature. Dandashly and Kourtelis (2023) argue that although Arab donors may provide aid without formal conditions, this does not mean that unconditional assistance does not create opportunities for influencing decision-making processes in recipient countries. In many cases, unconditional aid is linked to the strategic promotion of donors' own interests or ideas. At the same time, the authors highlight the example of China, where unconditionality may reduce pressure on recipient countries to implement reforms.

Authors identified greater opportunities, particularly in the area of financing effectiveness. As Kim and Lightfoot (2011) argue, Chinese development cooperation is perceived by some as more flexible and capable of achieving intended objectives more quickly, which contributes to its higher perceived effectiveness. According to the study by Palagashvili and Williamson (2020), concerns regarding the uncontrolled nature of aid provided by non-DAC donors are not entirely justified. Their research found that larger traditional donors indeed demonstrate higher transparency and lower administrative costs, as already discussed earlier in this article. On the other hand, both DAC and non-DAC donors show similar challenges regarding selectivity, meaning that they also provide assistance to higher-income countries, which reduces the focus on the poorest states. In terms of fragmentation, DAC donors tend to spread aid more widely across sectors, while non-DAC donors show lower fragmentation across recipient countries, which may enhance aid effectiveness. A similar conclusion is presented by Semrau and Thiele (2017), who argue that non-DAC donors may not differ as significantly from traditional DAC donors as is often assumed. They use Brazil as an example, showing that its foreign aid combines strategic national interests with altruistic objectives, making its behaviour in many respects similar to the practices of DAC donors. Regression analysis showed that regional, historical, and cultural ties are key factors in aid allocation, particularly regarding Africa and former Portuguese colonies. The authors also evaluated the political indicator Polity IV, which reflects the level of democracy in recipient countries, and found that Brazil tends to favour more democratic recipients. Tapscott, Jing and Puppim de Oliveira (2020) argue that the differences between DAC and non-DAC aid models are gradually becoming less distinct, with ODA governance showing increasing convergence. Southern donors are establishing new financial institutions modelled on traditional multilateral banks and adapting their aid mechanisms, suggesting a trend towards reform among non-DAC

donors. At the same time, according to the authors, Northern donors are increasingly adjusting their programmes to better align with their own national interests. They view this trend as a natural response to an increasingly globalised world.

Calleja, Bellés and Cichocka (2024) highlight perceived opportunities related to non-DAC donors based on interviews and analyses conducted within their research. Respondents identified UN agencies as neutral and legitimate platforms for dialogue and exchange of views, where all actors can participate on equal terms. Another opportunity for non-DAC donors lies in multilateral development banks, particularly those with limited membership or established outside the DAC framework, where non-DAC providers may exercise greater influence and share technical expertise. The research also pointed to the potential of smaller, targeted technical partnerships focused on common interests, which can help build trust and experience in collaboration, as well as to the G20 forum as a space for cooperation between major DAC and non-DAC donors in the area of development financing.

Another opportunity, according to Zhang and Martínez-Zarzoso (2021), relates to the secondary role of bilateral development cooperation in supporting export capacity and the integration of recipient countries into global value chains (GVCs). This dimension of aid represents an opportunity not only for recipient countries, which may diversify their export portfolios and gain competitive advantages, but also for donors themselves. The authors further emphasise that the long-term effects of bilateral aid are more significant than short-term effects. Aid is often more effective when the donor and recipient are not members of the same regional trade agreement, as this creates new opportunities for export diversification and strengthens the position of recipient countries in global markets.

3 Experts' Perspectives on Current Development Cooperation

Development cooperation is currently understood as part of a broader range of external capital flows, including official development assistance, foreign investment, and remittances. According to Respondent 1 (2025), investments and remittances often represent a direct stimulus for industrialisation and the mitigation of economic and social crises. Therefore, in combination with traditional development cooperation, they are considered essential for achieving sustainable development. However, the respondent points out that each form of external capital brings specific advantages as well as limitations, while empirical experience does not suggest any case in which development aid alone has led to successful national development. Instead, the interaction and combination of these different sources play the decisive role. According to Respondent 1, traditional development cooperation has the strongest impact at the micro level, where specific projects in healthcare or education directly improve the lives of individuals. As an example, the respondent refers to experience from Kenya, where small intervention projects significantly affected local communities. At the macro level, however, the impact of traditional aid is more limited and depends on the country's stability as well as its economic and political conditions.

Respondent 3 (2026) adds that every source of external capital has its own relevance, while assigning the greatest importance to foreign direct investment (FDI). The added value of FDI is mainly seen in the fact that it represents private capital, which is often used more efficiently and generates stronger spill-over effects. At the same time, the respondent emphasises that official development assistance continues to play an important role in least developed countries (LDCs), although currently only one-third of aid is directed towards LDCs, while at least half would be considered a more desirable level. Similar to Respondent 1, Respondent 3 stresses that no single source of financing is sufficient on its own. The key factor is the complementarity between different funding sources, coordinated policies, and development strategies linking domestic economies with foreign investment and remittances. Development cooperation remains particularly relevant as a countercyclical financing tool

compared to FDI, similar to personal remittances. At the micro level, it can be highly effective, whereas at the macro level it may also generate unintended effects, such as influencing monetary policy or supporting corrupt practices.

Respondent 2 states that we are currently witnessing a global decline in humanitarian and development financing, reflected, for example, in the significant reduction of USAID programmes, as well as the growing trend of far-right political movements in some EU countries. The consequences of cuts in USAID grants can be observed in areas such as HIV treatment financing in some countries of Sub-Saharan Africa, where access to treatment for patients who critically depend on it became unavailable almost overnight. According to Respondent 2, this example demonstrates that development cooperation remains highly necessary and relevant, as it often compensates for weak state capacities. At the same time, however, funding shortages reveal weaknesses in the existing system, which create long-term dependence among recipient countries on external assistance and often fail to support the development of sustainable capacities beyond project cycles. Given the current declining trend in financing, Respondent 2 argues that the reform of development financing mechanisms is necessary to increase their stability, effectiveness, and sustainability.

3.1 Experts' Perspectives on Non-DAC Donors

The growing role of so-called non-DAC donors creates both new opportunities and risks. Respondent 1 highlights that the main risks include a lack of transparency, support for non-democratic regimes, and loss of control over infrastructure, especially in the case of large Chinese projects. On the other hand, non-DAC countries may provide assistance in areas where traditional DAC donors are not active, for example in the Sahel region, where leaders have come to power through coups and traditional donors no longer engage with them. In such cases, foreign aid allows at least partial support to reach populations that would otherwise have no access to assistance. Similar opportunities can also be seen in regions where historical or political barriers limit cooperation with traditional donors, such as in parts of Africa due to the legacy of colonialism.

Respondent 2 argues that non-DAC donors often apply different conditions and strategies compared to traditional DAC donors, while both groups view Official Development Assistance (ODA) as a diplomatic tool. Therefore, it cannot be claimed that DAC donors act completely selflessly or apolitically. According to Respondent 2, in the case of donors such as China, development cooperation may also pursue objectives beyond the scope of "soft power" diplomacy. As an example, Respondent 2 refers to the Hambantota Port project in Sri Lanka, which was built through Chinese development loans. After Sri Lanka was unable to repay the debt, the government was forced to effectively transfer control of the port to China. According to Respondent 2, similar situations have occurred in other developing countries where China has financed infrastructure projects through loans. At the same time, Respondent 2 emphasises the importance of non-DAC donors in regions where traditional DAC donors are unwilling or unable to intervene. An example is the humanitarian assistance provided by Türkiye, Qatar, and the UAE in the Gaza Strip, where Israel is actively involved. According to Respondent 2, these cases suggest that non-DAC donors may fill gaps in assistance in contexts where traditional donors choose not to engage for political or strategic reasons.

Respondent 3 sees the main opportunity of non-DAC donors in the alternative they provide to traditional donors, offering additional sources of funding and know-how, especially in situations where DAC donors are limited by political or strategic interests. Their involvement may be particularly useful in Latin America and other regions, where they can transfer know-how through triangular cooperation, combining resources from official donors, expertise from non-DAC donors, and the needs of recipient countries. On the other hand, there are risks associated with non-DAC donors, including debt trap diplomacy, environmental risks, and

forms of modern neocolonialism, which need to be considered during project implementation. The issue mainly lies in providing financial resources through loans, which may lead to debt repayment difficulties and the subsequent acquisition of strategic assets such as ports or natural resources. According to Respondent 3, another risk is the creation of dependency on development aid, tied aid practices, and insufficient conditionality, which may increase social risks. Aid provided by non-DAC donors is often not linked to compliance with labour standards, respect for human rights, or support for democratic principles. Respondent 3 also points out the dual role of several non-DAC donors, which simultaneously act as both providers and recipients of development cooperation. An example is Türkiye during the Syrian war, where it contributed to addressing the humanitarian crisis while also receiving substantial aid due to the large number of refugees entering its territory.

Respondent 3, similarly to the other respondents, states that several problematic aspects often associated with non-DAC donors can also be identified among traditional DAC donors. At the same time, Respondent 3 points out certain trends, such as the tendency of donors from Muslim countries or the Caribbean to geographically concentrate their development cooperation activities. Respondent 1 adds that infrastructure projects belong to the most sensitive sectors of development cooperation, as they involve risks related to the loss of control over strategic assets. Respondent 3 also emphasises that governance is one of the sectors where bilateral development cooperation may interfere with state sovereignty. This issue is characteristic of both types of donors – through aid conditionality applied by DAC donors, as well as through tied aid practices associated with non-DAC donors.

When evaluating the success of development cooperation, Respondent 3 recommends focusing mainly on outcome indicators and results that create real changes in people's lives. Therefore, it is important to monitor actual impacts, such as improvements in literacy levels, rather than only quantitative outputs, such as the construction of a school itself. In this context, Respondent 1 highlights the importance of clearly defined goals, systematic monitoring of sectoral effects, and carefully designed contractual protections for donor rights. Respondent 2 also emphasises that projects should be based on the priorities of local communities, be sustainable in the long term, and generate positive impacts for marginalised groups and gender relations. The respondents agree that development cooperation should place greater emphasis on multilateral coordination, technical assistance, and public-private partnerships (PPPs), which could reduce aid fragmentation and increase the efficiency of resource use. At the same time, the importance of microprojects and local interventions should not be overlooked, as they allow more detailed monitoring of specific impacts and provide direct support to local communities.

The respondents clearly point to the need for further research focused on how the development sector responds to the changing global environment of development cooperation. Respondent 2 particularly highlights the need to examine the effects of the absence of USAID and the question of whether, and to what extent, EU donors will respond in a similar way in the coming years. Respondent 3 identifies a research gap in studying interactions between traditional DAC donors and non-DAC donors within specific recipient countries. According to Respondent 3, it is important to analyse the degree of complementarity and competition between them, as well as the willingness of different actors to cooperate and coordinate their activities. Respondent 1 points out that China is often analysed separately from traditional donors, which may distort perceptions of its effectiveness, and therefore recommends examining it within a comparative context. At the same time, Respondent 1 stresses the need for greater attention to other non-traditional donors, such as India, as well as the importance of sector-focused research through case studies assessing the actual impacts of aid in areas such as industry, education, healthcare, waste management, and energy. For better clarity, the main differences between DAC and non-DAC donors are summarized in *Table 1*. The table does not

serve as a complete evaluation of all donors but rather as a practical synthesis of the most commonly identified characteristics, risks, and opportunities that emerged from the analysed literature and expert interviews.

Table 1. DAC vs. Non-DAC Donors in the Context of Current Development Cooperation

SELECTED ASPECTS	DAC DONORS	NON-DAC DONORS
INSTITUTIONALIZATION	Stable and long-established structures	Different levels of institutionalization, less unified frameworks
TRANSPARENCY AND DATA	Standardized and comparable data	Lower transparency and limited comparability of data
MONITORING OF RESULTS	Formal evaluation mechanisms	Less systematic assessment of results
AID FRAGMENTATION	Higher sectoral fragmentation	Generally lower fragmentation
AID CONDITIONALITY	More often linked to reforms and standards	Lower conditionality, stronger focus on sovereignty
GEOPOLITICAL MOTIVATIONS	Present, often shaped by normative goals	Present, more strongly linked to strategic and economic interests
TYPE OF FINANCING	Mainly grants and technical assistance	Combination of grants, loans, and investments
IMPLEMENTATION	Higher administrative burden	Faster implementation and greater flexibility
ACTIVITY IN HIGH-RISK REGIONS	Often limited by political conditions	Active even in regions where DAC donors are not involved
RELATIONSHIP WITH RECIPIENT COUNTRIES	More formal donor–recipient relationship	Greater focus on partnership and sovereignty

Conclusion

The aim of this article was to analyse current trends in development cooperation, with a focus on the growing role of non-DAC donors, and to evaluate how their activities are reflected in academic literature and by experts in practice. The findings from both the content analysis and expert interviews confirm the conclusions of the literature review, which suggest that non-DAC donors do not represent a homogeneous group and that their behaviour in many respects resembles the practices of traditional DAC donors, although significant differences remain, particularly in transparency, reporting, and institutional structures. From the perspective of the theoretical frameworks presented in the literature review, especially the Paris Declaration on Aid Effectiveness and the evaluation approach of Easterly and Williamson (2011), the most significant weakness of non-DAC donors appears to be their low level of transparency and challenges in monitoring outcomes. These findings were clearly confirmed in the analysed academic articles, which highlight inconsistent data, the absence of sector classifications according to OECD standards, and the overlap between grants, loans, and investments, particularly in the case of BRICS countries. The interviewed experts emphasised similar risks, including the possibility of debt traps, loss of control over strategic infrastructure, and limited donor accountability.

At the same time, empirical evidence from both the literature and interviews suggests that non-DAC donors may achieve comparable or even more favourable results than DAC donors in certain areas. In particular, lower aid fragmentation across countries, faster project implementation, and a stronger focus on infrastructure and technical assistance are identified in the literature as potential sources of greater effectiveness. These findings correspond with the views of experts, who highlighted the practical usefulness of non-DAC cooperation in unstable regions or in countries where traditional donors are absent due to political reasons. The discussion of geopolitical motivations was also reflected in expert perspectives. Academic literature warns that donors' strategic interests may lead to selective allocation of aid and

support for authoritarian regimes, which conflicts with the principles of the Paris Declaration. The interviews confirmed these concerns while also showing that linking development cooperation with national interests is not unique to non-DAC donors, but rather represents a broader trend that increasingly characterises DAC donors as well.

The findings of this article suggest that although partial convergence between DAC and non-DAC donors is occurring in some areas, differences between their models of development cooperation persist and remain significant in the case of certain actors, particularly China. The current aid architecture is therefore not evolving towards a single unified model, but rather towards a pluralistic system in which different approaches, norms, and motivations coexist. In this context, development cooperation continues to play an important role, particularly as a tool with a strong impact at the micro level and as a countercyclical source of financing, while its effectiveness increases through coordination with other forms of external capital.

In conclusion, non-DAC donors cannot be considered either a clear threat or a universal solution to global development challenges. Their contributions and risks vary significantly depending on the specific donor group and the national context of individual countries, although certain relatively homogeneous donor groups can be identified. As the respondents agreed, in light of current trends, non-DAC donors represent an important alternative that seeks to fill gaps left by traditional donors, whose development cooperation expenditures are declining. Institutional settings, sectoral focus, the form of aid provided, and the level of alignment with international standards all play a key role. The analysis therefore confirms the need for a differentiated country-specific approach and cautions against generalising non-DAC donors. At the same time, there remains substantial space for further research on the relationships between traditional and emerging donors, their complementarity, and their ability to contribute to reducing aid fragmentation and improving overall aid effectiveness.

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Appendix 1: Questions Used in Semi-Structured Interviews

1. Key Sources of Capital
Which sources of external capital (e.g. official development assistance, foreign direct investment, remittances) do you currently consider the most important for the long-term and sustainable growth of developing economies?

2. Relevance of Development Assistance Today
To what extent do you believe development assistance remains a relevant and effective tool for supporting developing countries in the current global environment?

3. Experience with Non-DAC Donors
In recent years, non-DAC donors (e.g. China, India, Türkiye, the UAE, Saudi Arabia, and Qatar) have received increasing attention. These are donor countries that are not members of the OECD Development Assistance Committee. How familiar are you with this group of donors, and to what extent do they appear in your professional work or experience?

4. The Role of Non-DAC Donors
How do you perceive the role of non-DAC donors within the global development assistance architecture – do they represent a complement, an alternative, or a challenge to traditional DAC donors?

5. Opportunities and Risks of Non-DAC Donors for Recipient Countries
In your opinion, what opportunities and risks can development assistance from non-DAC donors bring to recipient countries compared to traditional DAC donors?

6. Transformation of the Development Assistance Concept
How do you think development assistance should change to remain effective and relevant in a changing global environment (e.g. the growing role of non-traditional donors or climate challenges)?

7. Sensitive Sectors
Which sectors in developing countries do you think are most affected by the type of donor (DAC or non-DAC) or by the form of assistance (e.g. infrastructure, education, healthcare, or governance)?

8. Evaluating the Effectiveness of Development Assistance
Which factors or indicators do you consider most important when evaluating the success of development assistance?

9. Future Research Directions
What new research questions or topics do you think should be explored in relation to changes in development assistance and the growing role of non-traditional donors? Where do you see the biggest research gaps or opportunities for future research?

REMITTANCES FLOWS TO AFRICAN COUNTRIES

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Abstract: This paper analyses the flows of remittances to African countries and the trends apparent in current remittance flows data. Based on global data on remittances and data on flows to African countries, it describes its growing importance as a source of foreign capital in this region. The paper also covers the literature on remittance effects on countries, covering the most common criticism of remittance flows into developing countries. The last part of the paper focuses on Lesotho, which is among the African countries most reliant on remittance flows.
Keywords: Remittances, Africa, Lesotho
JEL: F24

Introduction

The growing flow of remittances puts this important source of foreign capital into the focus of economists studying developing economies. Besides foreign direct investments and official development assistance, remittances bring capital from abroad with their unique advantages and disadvantages. In this paper, we introduce the topic of remittances in Africa. The paper also focuses on research on remittances in general and in Africa in particular. We study the effects of remittances on different economic and non-economic indicators and describe the current trends in remittance statistics.

This paper aims to describe the current state of remittance studies in Africa and to identify the directions of possible future research by describing gaps in the literature.

To evaluate the flows of remittances, we describe the amount of remittance flows, comparing it to the flows of foreign direct investment and official development assistance. However, the most important indicator of our study is the share of remittances in countries´ GDP, which shows the level of dependence on remittance flows. In the last part of the paper, we look at one example of a country dependent on remittances, Lesotho.

The data for this paper are mainly from RemitSCOPE, a project focusing on collecting and evaluating remittance data. Other sources include World Bank data and African international organisations' data.

1 Literature review

Theoretical definitions of remittances and textbooks on economies of developing countries often focus on remittances as one of the major sources of capital flowing to developing economies from abroad. Therefore, remittances are commonly compared to foreign direct investment and official development assistance. In comparison to the other two sources of foreign capital, remittances are commonly perceived as having several advantages and disadvantages.

According to Todaro and Smith (2020), remittances are successful in poverty reduction at the personal and country level (e.g. in Guatemala, Uganda, Ghana, or Bangladesh). They are often used to cover basic needs like housing, food or costs of schooling. However, the rising amount of remittances brings about the question of brain drain or forced migration cases (human trafficking, exploitation).

In African economies, according to Langdon et al. (2018), remittances provide support for ageing parents and improve the livelihood of the extended family. Other advantages on the macroeconomy level include inflow of foreign currencies, tax income. The negative effect often cited in connection with remittances is inequality. Langdon et al. acknowledge this effect, however, only in the case of migration of skilled workers to high-income countries. The positive effects of remittances could be increased by lowering the costs of remittance flows, which remain quite high. In this part of the paper, we will examine relevant research on the effects of remittances on different economic and social indicators, both in general and in Africa specifically.

Meyer and Shera (2017) studied the impact of remittances on economic growth, with a focus on six high remittances receiving countries in Europe. Their study confirmed the positive effect of remittances on economic growth. Nevertheless, the authors strongly suggest further research into the impact of remittances on other economic indicators to explain the relationship and to identify the most productive way to use remittances to boost economic growth.

Fromentin (2017) even found the positive impact of remittances on the financial development in the long run in different groups of countries (low income, lower middle income, upper middle income). To measure the financial development, the author used two proxy indicators: domestic credit to the private sector by banks and liquid liabilities of the financial system. To strengthen the positive effect of remittances on financial development, Fromentin suggests encouraging migrants to remit through the formal financial system and simplifying the financial sector for remittance recipients.

One of the most popular indices combining economic and social indicators is the Human Development Index. Ustubici and Irdam (2012) decided to study the impact of remittances on the Human Development Index and to compare the impact of remittances with that of foreign direct investment and official development assistance. They found that remittances have a stronger positive effect on the Human Development Index than foreign direct investment or official development assistance; however, not all countries benefit from remittances equally. The authors therefore suggest several policies: improve the investment climate, inform households about management of remittances, and focus on the importance of public expenditure.

1.1 Effects of remittances in Africa

As African countries are among the developing countries that could benefit from foreign capital flows, including remittances, a significant amount of research on remittances focuses on Africa.

Lartey (2011) decided to study the impact of remittances on growth in 36 countries in sub-Saharan Africa and the mechanism through which remittances contribute to economic growth. Lartey confirms the positive effect of remittances on economic growth through increased investment, but also through other channels. This research debunks popular criticism that remittances are mostly used to increase consumption and do not promote investment. However, he also claims that the effect on consumption stabilises the macroeconomic situation in the country, therefore creating an environment for investment.

The positive effect of remittances on investment in sub-Saharan African countries is also confirmed by Baldé (2011), who found the positive relationship between remittances and investment. Additionally, he compared the effect of remittances on investment with the effect of official development assistance on investment and savings, finding that the impact of remittances is greater than in the case of official development assistance.

Similarly, the study of Ncube and Brixiova (2013) suggests the investment motive of remittances, as their flows are dependent on the macroeconomic environment in the recipient

country. However, the main focus of their paper is the impact of remittances on external balances in African countries. They conclude that remittances can significantly support the stability of external finance and debt of recipient countries, as they documented in the example of Egypt. The positive effect depends on whether the flows enter the official financial sector and how they are used (consumption, savings, investment).

As the impact of remittances differs among countries, Chitambara (2019) included the variable of institutional quality in his research on the impact of remittances on economic growth in African countries. He used three indicators for the quality of institutions: freedom rating by Freedom House, polity2 rating published by Polity IV and economic freedom index by Fraser Institute. His findings confirm the positive effect of remittances on economic growth. This effect is strengthened by strong institutions; African countries need to focus on the quality of their institutions to foster economic benefits.

Institutional quality was proved as important driver of the positive effect of remittances on economic growth, also by Singh et al. (2011). Additionally, their research shows that in African countries, remittances have another positive effect, as they absorb negative economic shocks. Unlike foreign direct investment, remittances are therefore anti-cyclical. Fayissa and Nsiah (2010a) consider remittances to be an additional source of economic growth that should be effectively harnessed by African governments, as an addition to foreign direct investment, not as its replacement. According to them, remittances are important in overcoming liquidity constraints in African countries, as well as in Latin America. (Fayissa & Nsiah, 2010b)

In the study by Adjei et al. (2020), remittances in West Africa had a positive impact on economic growth, additionally strengthened by real effective exchange rate, trade openness and investment. However, another study of one West African country, Ghana, showed a positive effect of remittances on economic growth in the short run, but a negative effect in the long run. Oteng-Abayie et al. (2020) suggest that Ghana should focus on using remittances more effectively (through education of recipients) and strengthen the domestic institutions to harness the positive effects of remittances in the long run as well.

In some African countries, research on remittances shows less optimistic results. The study of remittances in Nigeria by Oluwafemi and Ayandibu (2014) speaks of missed opportunities. The possibly positive effects of a significant amount of remittances flowing to Nigeria are hampered by corruption, weak institutions and focus on the oil economy, rather than diversification.

The study by Nyasha and Odhiambo (2022) on the impact of remittances on economic growth in South Africa suggests that, unlike in some other developing countries, remittances have a negative effect on economic growth. This result was shown in both short-run and long-run regression analysis.

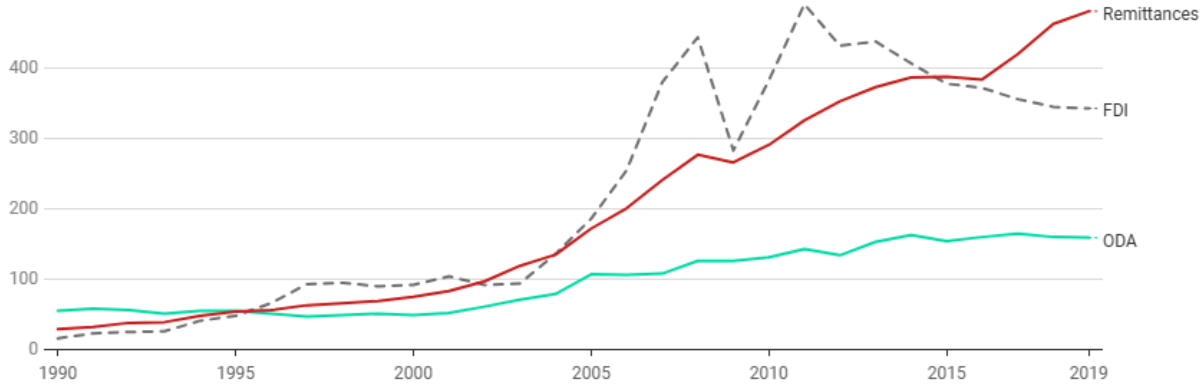
2 Data on remittances

In the second part of this paper, we are analysing data on remittances in the world and in Africa, based on data from the World Bank, RemitSCOPE and other sources.

Data by the World Bank on total personal remittances received (in current USD) shows a clear growth of remittances with steeper growth in the 21st century. In 2024, the global amount of remittances reached 856.06 billion USD.

The growing amount of remittances can be partially attributed to better accounting. However, most analysts suggest that even now, the official statistics are vastly underreporting the real amounts of remittances. (Todaro & Smith, 2020)

Figure 1: Remittances, FDI and ODA flows to low- and middle-income countries excluding China (billion USD)



Source: "Money sent home by workers now largest source of external financing in low- and middle-income countries (excluding China)", by Barne, D., & Pirlea, A. F., 2019, *World Bank Blogs*, https://blogs.worldbank.org/en/opendata/money-sent-home-workers-now-largest-source-external-financing-low-and-middle-income

Figure 1 shows the growing importance of remittances as a source of foreign capital and compares its flows to other important sources of capital for developing countries, foreign direct investment and official development assistance. We can see that remittances surpassed the flows of ODA already in 1995, and now they are even higher than foreign direct investment. Remittances also show lower volatility than FDI.

The countries receiving the highest flows of remittances globally are big economies, some of them developed ones. With more than 137 billion USD in remittances, India is the biggest recipient, followed by Mexico, the Philippines, France and Pakistan.

Even more relevantly, the amount of personal remittances as a percentage of GDP grows as well, doubling its share from 0.4% in 2001 to 0.8% in 2024. Although 0.8% share in global GDP is low, the importance of remittance follows is much higher in developing regions and countries. In least developed countries, remittances amount to 5.2% of GDP, in lower middle income countries, this share is 5.4% of GDP. Based on World Bank (2026) data, the countries most dependent on remittances are Tajikistan (47.9% of GDP), Tonga (42.6% of GDP), Lebanon (33.3% of GDP), Nicaragua (26.6% of GDP) and the Kyrgyz Republic (26.6% of GDP).

2.1 Remittances in Africa

In the following part of the paper, we will focus on remittances data in Africa. As the World Bank provides data for world regions, where African countries are divided among two regions (Sub-Saharan Africa and the Middle East, North Africa, Afghanistan & Pakistan), we will mostly work with data from RemitSCOPE (2026b). RemitSCOPE provides data for three developing regions, Africa, Latin America and Asia and works with various data sources like international organisations´ databases, national statistics or expert opinions. (RemitSCOPE, 2026a) In Africa, it provides data on 43 countries since 2010.

Compared to the other two regions, Africa is slightly less dependent on remittances, but the growing trend is apparent in all three regions. In 2024, the reliance on remittances in Africa on average was 5.366% of GDP (compared to 6.063% of GDP in Latin America and 6.156% of GDP in Asia). The overall amount of received remittances among regions is the lowest in Africa, but the growth is most dynamic. Another unfavourable statistic in Africa is the highest costs of sending remittances, at almost 10%.

Countries that belong among the most populous in Africa are also among the biggest recipients of remittances in absolute terms. In 2024, Egypt received 29.559 billion USD, and Nigeria received 21.293 billion USD in remittances. More than half of remittances flowing to Egypt were from two countries, Saudi Arabia and the United Arab Emirates. The most important source country for remittances to Nigeria is the United States of America, followed by the United Kingdom.

However, these are not the economies that are most dependent on remittances. In Egypt, remittances are 7.6% of GDP, in Nigeria, 8.4% of GDP. Meanwhile, there are countries in Africa where remittance flows correspond to more than a fifth of GDP. According to the latest data, The Gambia is most dependent on remittances with 22% of GDP, followed by Liberia with 21.3% of GDP and Lesotho with 20.9% of GDP.

The data does not include all countries of Africa, such as Somalia. By some estimations (Abdulle et al., 2026), Somalia is the country in Africa that is most dependent on remittances, with approximately 30% of GDP. However, across databases, data on Somalia is missing for several decades already, and it is difficult to get any relevant internationally comparable data.

3 Remittances in Lesotho

Lesotho, an enclave in Southern Africa, is the country where personal remittances account for approximately 20% of GDP. (RemitSCOPE, 2026c) The country is specific in several respects relating to remittances.

First, it is an enclave fully surrounded by South Africa, one of the relatively developed and diversified economies in Africa. It is therefore not surprising that most of the remittance flows to Lesotho are from South Africa (more than 99%). Other origin countries of remittances to Lesotho are Mozambique, the United Kingdom and Australia. The importance of these is negligible compared to South Africa.

Second, the share of remittances in GDP is in decline. Remittance flows to Lesotho were as high as 27.3% of GDP in 2010, and this share fell to 20.94% of GDP in 2024. This trend differs from the global trend, the African trend and the trend in other African countries dependent on remittances like The Gambia, Liberia, Comoros or South Sudan.

Remittances in Lesotho have been studied for more than 30 years by Gustafsson and Makonnen (1993), as already in the 1990s, Lesotho depended on remittances of miners working in neighbouring South Africa. The paper studies the alternative scenario of ending remittance flows and the impact of this alternative on consumption and poverty. They estimated that without remittances, consumption would fall by 40% and poverty would increase by 14%.

More recent research (Mochebelele & Winter-Nelson, 2000) focused on agricultural productivity in Lesotho in connection to migration and remittances. The paper concludes that capital inflows increase agricultural productivity in Lesotho and are more beneficial to the agricultural sector of Lesotho than the loss caused by brain drain due to migration.

Conclusion

This paper focused on remittances in Africa, their growing importance, and their effects on economic and social development. Through a review of the literature and an analysis of current data, we described the role of remittances as a source of foreign capital and compared them with other sources of external finance, namely foreign direct investment and official development assistance. We also examined the case of Lesotho as one of the African countries most dependent on remittance inflows.

The literature reviewed in this paper suggests that remittances have predominantly positive effects. Research from Africa as well as from other developing regions links remittances to poverty reduction, improvements in living standards, financial development,

investment, and economic growth. In addition, remittances can help households and countries cope with economic shocks and provide a relatively stable source of foreign currency. Several studies even suggest that remittances can have a stronger positive impact on development indicators than other forms of foreign capital.

The analysis of remittance data confirms their growing importance. Global remittance flows have increased significantly in recent decades and now exceed official development assistance and, in some cases, foreign direct investment flows to developing countries. Although Africa remains slightly less dependent on remittances than Asia or Latin America, the growth of remittance inflows has been dynamic. In several African countries, remittances account for more than one-fifth of GDP, demonstrating their importance for national economies.

At the same time, both the literature and the data show significant differences among countries. While many studies find a positive relationship between remittances and economic growth, the results are not universal. The effects of remittances depend on factors such as institutional quality, financial sector development, economic structure, and the way remittances are used by households. Countries with similar levels of remittance inflows can therefore experience very different outcomes. The example of Lesotho illustrates both the benefits and the risks associated with a high level of dependence on remittances. While remittances play an important role in reducing poverty and supporting household consumption, they also represent a source of vulnerability due to the country's strong reliance on labour migration to South Africa.

Future research could focus on two related issues. First, more attention should be paid to the possible consequences of over-reliance on remittances, especially in countries where remittance inflows represent a large share of GDP. Second, it would be useful to study whether and how countries can gradually outgrow their dependence on remittances as their economies develop and diversify. The experience of Lesotho, where the share of remittances in GDP has been declining despite their continuing importance, suggests that this may be a promising direction for future research.

Overall, remittances represent an increasingly important source of foreign capital in Africa and other developing regions. Although their effects differ across countries, the existing literature suggests that they make a positive contribution to development and can complement other sources of external finance when supported by appropriate economic and institutional conditions.

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FDI IN THE AUTOMOTIVE INDUSTRY IN THE VISEGRÁD COUNTRIES

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Abstract: The paper analyzes the evolution of FDI in the automotive industry of the V4 countries from 1990 to 2026. The primary objective of the paper is to assess the transformation of this sector from low-cost assembly plants to technology and battery hubs of global significance. The methodological approach encompasses a chronological reconstruction of investment waves and a comparative analysis of national economic strategies. The primary conclusions indicate that the initial model, predicated on inexpensive labor, has definitively reached its conclusion. While Slovakia exhibits high vulnerability due to sectoral monoculture, the Czech Republic is successfully building technological autonomy through its own research and semiconductors. Conversely, Hungary is confronted with geopolitical challenges stemming from its intricate relationship with the Chinese battery ecosystem.
Keywords: FDI, V4, automotive
JEL: L62, O14, P52

Introduction

The dissolution of the Iron Curtain in the 1990s precipitated one of the most profound economic transformations in recent history. The Visegrad Four (V4) countries confronted the challenge of transforming inefficient, centrally planned economies into modern market systems. Foreign direct investment (FDI) has been identified as a pivotal factor in this economic growth, particularly within the industrial sector. The automotive industry gradually emerged as the sector that significantly shaped the V4‘s trajectory. From a geographical perspective, the region had the potential to become the new core of European production. The proximity to Western markets, particularly those of Germany, the long-standing tradition of automotive manufacturing, and the presence of a technically skilled and, at the time, remarkably inexpensive labor force all contributed to an irresistible proposition for foreign companies. Investors' search for new markets was complemented by a primary interest in opportunities to enhance the efficiency of their global supply chains.

Over the past three decades (1990-2026), the automotive sector in the V4 countries has undergone a profound evolution. The evolution of the economy has been marked by a series of significant developments, beginning with the initial privatization of state-owned enterprises and the subsequent search for inexpensive labor for assembly lines. This was followed by a period of substantial growth in greenfield investments following accession to the European Union (EU) in 2004, leading to the present phase of structural transformation. Over the course of these three decades, the V4 region has evolved into a pivotal component of European industry, with Slovakia consistently attaining the global leader position in terms of the number of vehicles produced per capita.

However, it should be noted that the present model is approaching its theoretical limits. The advantage of low labor costs has disappeared, and the V4 countries are facing an acute shortage of domestic labor, pressure to decarbonize, and the need to transition from simple assembly to in-house research and development (R&D). It can be posited that FDI has exerted a significant influence on the economic landscape of the V4 countries since the early 1990s.

The role of national investment agencies, such as the Slovak Investment and Trade Development Agency (SARIO), has evolved from a competition to offer cheaper labor to a focus on attracting high-value-added technology hubs for the emerging era of electromobility.

Rearding the FDI in the V4 region, there are numerous studies and articles, dealing whith this phenomena. Authors like Hlavacek & Bal-Domanska (2016), Jacobs (2017), Kureková (2018), Radosevic & Rozeik (2005), Sass & Szalavetz (2013), Török (2022), Polish Economic Institute (2019) deal with different aspects of FDI in the V4 region in general and also in autmotive industry.

The primary objective of this article is to assess the three-decade evolution of FDI in the automotive industry of the V4 countries from 1990 to 2026, with a particular focus on the transformation of their economic model from low-cost assembly plants to technology and battery hubs of global significance.

1 Three waves of evolution of FDI

1.1 1st wave (1990–2004) – the arrival of the first automakers

The initial decade following the dissolution of the Soviet Union was characterized by profound structural transformation and the quest for a novel economic identity. For automotive giants from foreign countries, the V4 region was a territory with high transformation risks on one hand, but also unrivaled potential on the other. The initial phase was marked by two predominant approaches: the privatization of existing state-owned enterprises with an industrial tradition and the initiation of preliminary greenfield projects, or the establishment of joint ventures. The primary impetus for this migration was the presence of a workforce that was both inexpensive and technically proficient, as well as the geographical proximity to Western Europe.

In the case of the Czech Republic, it can be posited that a critical juncture in the evolution of Central European industry was marked by the privatization of Škoda Auto, the Mladá Boleslav-based carmaker, in 1991. This event signified a pivotal shift in the course of Central European industry, leading to a significant transformation in its trajectory. The Volkswagen Group's acquisition of a stake in Škoda is widely regarded as one of the most prosperous privatizations in the post-communist region. The German partner contributed not only financial capital but, more significantly, Western management expertise, technological proficiency, and immediate access to global markets. In a matter of years, Škoda underwent a transformation from a regional brand of the Eastern Bloc to a global player. This transition was marked by the introduction of models such as the Felicia (1994) and the first generation of the modern Octavia (1996), which established a new standard of quality.

The establishment of Volkswagen‘s operations in Slovakia occurred concurrently with its entry into the Czech Republic. In 1991, Volkswagen acquired a stake in the Bratislava Automobile Factory (BAZ). The plant's initial production capacity was modest, beginning with the assembly of a few thousand VW Passat vehicles per year. However, it rapidly emerged as a pivotal operation within the group, a feat attributable to the exceptional quality and adaptability of the local workforce. In the late 1990s, preparations for the launch of luxury SUV production (a joint project with Porsche) were successfully underway in Bratislava, thereby demonstrating that Slovakia possessed the capacity to manage even technologically demanding manufacturing processes.

A divergent strategy was observed in Hungary. In contrast to the approaches taken by the Czech Republic and Slovakia, which prioritized domestic automotive manufacturing, Hungary opted for an alternative strategy, one that centered on attracting entirely new greenfield investments. In 1991, Suzuki, a Japanese company, initiated the commencement of production in Esztergom. The Swift model, a vehicle of renown, effectively became the national car of Hungary, serving as a symbol of the country's motorization. Since the commencement

of production, the plant has produced nearly 4 million units of this automobile. In 1993, Hungary secured an even more strategic investment when the German company Audi established a plant in Győr. The plant, initially dedicated to the assembly of engine components, underwent a substantial transformation over time, ultimately becoming the preeminent global engine manufacturing facility. It currently produces millions of engines annually, providing a comprehensive supply to the entire Volkswagen Group network. In addition to its production capabilities, the facility incorporates an in-house development center.

During this period, Poland benefited primarily from its historical ties to the Italian Fiat Group, which took over the state-owned FSM car manufacturer in the cities of Bielsko-Biała and Tychy in 1992. Consequently, Poland emerged as the predominant European hub for small city cars, a position that was subsequently strategically reinforced in 1998 by a substantial investment by the Opel (GM) group in Gliwice. Presently, the manufacturing focus of this plant has transitioned to large commercial vehicles, a strategic decision that aligns with the broader portfolio of the Stellantis group.

The initial influx of investments signaled that Central Europe was not merely a passive recipient of substandard technologies. The confluence of modest wages and a highly skilled workforce facilitated the prompt adoption of cutting-edge manufacturing methodologies. It can be posited that this wave reached its symbolic conclusion in 2004, when the V4 countries effectively navigated the transition shock, stabilized their economies, and became members of the EU. This step definitively removed both tariff and administrative barriers, and the region gradually moved into the second wave.

Table 1: Main investors in V4 1990-2004

Country	Main investor	Key location	Year of entry	Main benefit
Czechia	Volkswagen (Škoda)	Mladá Boleslav	1991	Rescue, modernization, and global relaunch of the domestic brand
Slovakia	Volkswagen	Bratislava	1991	Transformation of BAZ, later transition to premium segments
Hungary	Suzuki / Audi	Esztergom / Győr	1991 / 1993	Building the industry from scratch (greenfield), engine powerhouse
Poland	Fiat / Opel	Tychy / Gliwice	1992 / 1998	Strong dominance in the small car and components segment

Source: Prepared by the author

1.2 2nd wave (2004–2018) – expansion and the creation of a “European Detroit”

The accession of the V4 countries to the EU on May 1, 2004, marked the definitive removal of customs barriers, the harmonization of legislation, and full integration into the single European market. For global investors, this signaled a transition in the perception of Central Europe from a risky post-Soviet region to a stable and competitive industrial heart of the continent. The subsequent period of economic growth, known as the "second wave," was characterized by a substantial increase in greenfield projects and the profound integration of local firms into global supply chains. During this period, the V4 region was informally referred to as the "Detroit of Europe."

The initial wave was predominantly characterized by the Czech Republic's privatization of Škoda, while the subsequent wave was predominantly influenced by Slovakia. In a remarkably brief period, the nation successfully secured the investment of two substantial investors. The French group PSA Peugeot Citroën (now Stellantis) constructed its modern plant in Trnava, while South Korea's Kia Motors selected Žilina. Following the initiation of mass production in 2006, both plants rapidly propelled Slovakia to the pinnacle of global rankings.

The success of Slovakia during this period was further symbolized and solidified by the British automotive manufacturer Jaguar Land Rover, which made a significant investment in Nitra in 2015 and initiated production in 2018. With a production rate that exceeds 180 cars per 1,000 inhabitants, Slovakia has emerged as a global leader in the relative intensity of automotive production.

During this period, the Czech Republic also demonstrated a notable level of activity, successfully diversifying its portfolio beyond the Volkswagen Group. As early as 2005, the TPCA (Toyota, Peugeot, Citroën) joint venture, which focused on the production of small city cars, commenced operations in Kolín. Nevertheless, a significant breakthrough occurred in 2008 with the initiation of production in Nošovice by the South Korean automotive manufacturer Hyundai. This strategic initiative resulted in the establishment of a distinctive industrial synergy with the Kia plant in Žilina, located approximately 90 kilometers away. This synergy facilitated the effective sharing of a supplier network across national borders, thereby enhancing the company's operational efficiency and competitive advantage.

During the second wave, Hungary reaffirmed its strategic focus on German premium brands. While Audi in Győr underwent significant expansion, transitioning from engine production to full-scale vehicle assembly, another major automotive manufacturer, German automaker Mercedes-Benz, established a presence in Kecskemét in 2012. This association has been identified as a primary factor in the strategic alliance between the Hungarian automotive industry and German automotive manufacturers specializing in technologically advanced vehicles.

Poland's trajectory diverged from that of the other three countries. The country's substantial domestic market and robust network of medium-sized enterprises have contributed to its emergence as a prominent subcontracting hub for the European economy. In addition to manufacturing engines and components, it became a European leader in the production of commercial vehicles and buses. The symbol of this era was the substantial expansion of the Volkswagen Group in Poznań and the construction of a new commercial vehicle plant in Września in 2016.

Table 2: Main investors in V4 2004-2018

Country	Main investor	Location	Production launch	Significance for the region
Slovakia	PSA / Kia / JLR	Trnava / Žilina / Nitra	2006 / 2006 / 2018	Achieving world leadership in per capita vehicle production
Czechia	TPCA / Hyundai	Kolín / Nošovice	2005 / 2008	Portfolio diversification, cross-border synergy with Slovakia
Hungary	Mercedes-Benz	Kecskemét	2012	Strengthening links to the German premium segment
Poland	Volkswagen Commercial	Września	2016	Dominance in commercial vehicles and supply chain

Source: author.

A pivotal aspect of the second wave was the transition from dispersed assembly halls to the establishment of comprehensive industrial clusters. The automotive industry has undergone a significant transformation in recent decades, with the focus of manufacturers shifting from mere final assembly lines to the broader ecosystem of Tier 1 and Tier 2 suppliers. This transition has had a profound impact on local employment and infrastructure, leading to a comprehensive and far-reaching change in the automotive landscape. During the second

wave, the V4 region experienced unprecedented economic prosperity, a significant reduction in unemployment, and an influx of modern management standards. However, the considerable reliance on a single sector began to elicit initial concerns among economists. Furthermore, by approximately 2018, it became evident that the initial model, predicated on a purportedly infinite supply of labor, was approaching its constraints. This is particularly salient in light of the mounting global pressure to drastically reduce emissions, which underscores the imperative for the V4 region to undergo a profound transformation if it wishes to maintain its position. This development signaled the advent of a third, technologically most demanding wave.

1.3 3rd wave (2018–2026) – electric mobility and Asian capital

The year 2018 witnessed a paradigm shift within the automotive industry. The mounting pressure from the European Union (EU) to drastically reduce emissions, the enactment of increasingly stringent legislation, and the initiation of a global technological race have collectively set in motion the most profound transformation since the era of Henry Ford. The third wave of this technological transformation is characterized by a shift in focus from the expansion of production capacity for internal combustion engines. This paradigm shift signifies a transition from a predominant focus on mechanical engineering to a more interdisciplinary approach, with increasing emphasis on chemistry, software, and semiconductors. Concurrently, a fundamental geopolitical transformation is underway. While the initial two waves were predominantly driven by German, French, and American capital, the third wave is characterized by a substantial influx of investment from Asia, particularly from China and South Korea.

During this period, Hungary has emerged as the uncrowned European champion in attracting Chinese capital. Budapest's strategic decision to establish itself as a nexus between Western automakers and Eastern battery suppliers has yielded substantial benefits. The most substantial investment in the nation's history was made by the Chinese battery giant CATL in Debrecen, amounting to over 7 billion euros. This megaproject is a complementary development to the arrival of Chinese automaker BYD in Szeged, where it constructed its inaugural European electric vehicle manufacturing plant. Hungary has thus succeeded in establishing a complete e-mobility value chain within a single territory. However, it is noteworthy that while production of electric vehicles commenced at the Szeged plant in early 2026, suspicions of customs regulation circumvention have emerged in recent months. The argument is that the plant is not receiving components, but rather finished and functional electric vehicles directly from China. It is further argued that key components are subsequently removed at the plant and re-installed later, thereby creating the vehicles administratively within the EU and thus avoiding the payment of a 27% customs duty.

In order to address this trend, Slovakia has implemented two strategic initiatives. The initial development is the arrival of Sweden's Volvo (owned by the Chinese conglomerate Geely) in Valaliky near Košice. This is the first plant in Slovakia to be constructed from the ground up as a purely electric facility, with production scheduled to begin in the second half of 2026. The second critical milestone is the substantial investment by the Gotion InoBat consortium in Šurany, which will establish the country's own gigafactory for battery cell production, thereby safeguarding the Slovak automotive industry from eroding competitiveness. The battery plant has obtained a building permit, and its construction officially commenced in the fall of 2025 with the laying of the cornerstone. However, the project's continuity is currently uncertain. This substantial investment, amounting to 1.2 billion euros, is projected to commence battery production in 2027.

During the third wave, Poland leveraged its strategic investments in the chemical industry, positioning itself as a significant player in the global chemical sector. The LG Energy Solution plant, situated in the vicinity of Wrocław (Kobierzyce), has emerged as the foremost

lithium-ion battery manufacturing facility in Europe and has become a pivotal supplier to prominent German premium brands. Consequently, Poland has emerged as the European leader in battery component exports.

Instead of pursuing an indiscriminate pursuit of battery factories, the Czech Republic has strategically directed its efforts towards the domestic transformation of Škoda Auto, a pivotal automotive manufacturer. This strategic initiative has culminated in the seamless integration of the Enyaq and Elroq electric models into Škoda's production facilities in Mladá Boleslav. Moreover, the nation has prioritized investment in the semiconductor sector, recognizing its status as a leading sector with the highest added value. A strategic success for the Czech Republic was the substantial augmentation of silicon carbide chip fabrication by the American company ON Semi in Rožnov pod Radhoštěm, with an estimated valuation exceeding 2 billion USD. This strategic initiative has enabled the Czech Republic to enhance its position in ensuring the supply security of power electronics utilized in electric vehicles.

Table 3: Main investors in V4 2018-2026

Country	Main investor	Sector / investment type	Location	Strategic significance
Hungary	CATL / BYD	Batteries / EVs	Debrecen / Szeged	European hub for the Chinese e-mobility ecosystem
Slovakia	Volvo / Gotion InoBat	EVs / Gigafactory	Valaliky / Šurany	Industrial reboot of the East, localization of battery supply
Poland	LG Energy Solution	Battery Cell Production	Kobierzyce	Largest EV battery production capacity in the entire EU
Czechia	onsemi / Škoda EV	Semiconductors / EV Transition	Rožnov p. R. / Ml. Boleslav	Semiconductor autonomy, stabilization of the domestic core

Source: author.

It can be concluded that the third wave has definitively put an end to the notion of the V4 as a low-cost assembly workshop. Investments between 2018 and 2026 necessitate a substantial transformation of the energy grid, the construction of clean facilities, and close collaboration with academic institutions. The implications are significant: who will endure the eventual obsolescence of internal combustion engines? The V4 region has successfully embraced this transformation, albeit at a considerable cost. The region's historical homogeneity has been eroded, resulting in a heterogeneous population. In the context of the global economic landscape, Hungary has strategically aligned itself with China, embracing its growing economic influence in a calculated move that, while potentially risky, is expected to yield substantial profits. In contrast, the Czech Republic has opted for a different path, prioritizing technological self-sufficiency as a key pillar of its economic strategy. Slovakia, meanwhile, has adopted a nuanced stance, positioning itself as a balance between the established European economic powers and the emerging economic powerhouses of Asia. This prompts a significant comparison: how have the internal structures and resilience of the individual V4 economies evolved over the past three decades?

2 Comparative analysis of the V4

Over the past three decades, the V4 economies have undergone what is arguably the most radical structural transformation in their modern history. In essence, FDI has catalyzed

a profound transformation in the V4 countries, transitioning them from post-Soviet economic backwaters to the industrial core of Europe. The automotive industry has emerged as the predominant catalyst for exports, employment, and technology transfer. Nevertheless, this success has come at the cost of increased sectoral concentration. The Slovak Republic serves as a prime example in this regard, as the automotive sector constitutes approximately half of the nation's total industrial revenue and contributes approximately 10% to the nation's total GDP. The economy of Slovakia is particularly vulnerable to global economic crises, as evidenced by the country's immediate and significant decline in GDP when confronted with external shocks, such as a global shortage of chips or a slump in demand within Germany. In contrast, the other V4 countries have exhibited a slightly more balanced structure. However, the transformation has not been uniform across all individuals. While in 1990 these economies shared similarities, characterized by the presence of inexpensive labor and a relatively level playing field, by 2026, each economy had developed distinct levels of internal resilience and was confronted with unique structural challenges.

Table 4: Comparative analysis of the V4

Country	Automotive dominance in industry	Domestic R&D level	Main source of resilience	Biggest structural risk
Slovakia	Extreme (45-50%)	Low (dependency on parent corporations)	World-class assembly line efficiency, EV transition (Volvo, Gotion)	High vulnerability to shocks, middle-income trap, labor shortages
Czechia	High (25%)	Medium to high (Škoda Auto HQ, onsemi chips)	Diversified economy, strong technological baseline, and chips	Aging population, high energy costs slowing down the industry
Hungary	High (30%)	Medium (applied battery research)	Complete e-mobility ecosystem (CATL, BYD) under one roof	Geopolitical risk (potential trade war between the EU and China)
Poland	Moderate (10%)	Medium	Huge domestic market, diversification (logistics, IT, agriculture)	Lack of skilled engineers for high-tech industrial sectors

Source: author, based on SARIO (2026), CZECHINVEST (2026), KSH (2026), PAIH (2026)..

The Slovak government has adopted a strategy of prioritizing final assembly of vehicles. With regard to operational resilience, Slovakia has emerged as a global leader, with its manufacturing facilities ranking among the most productive within their respective automotive groups. However, from a strategic resilience perspective, the nation exhibits vulnerabilities. The company does not have a headquarters; rather, decisions are made in Wolfsburg, Paris, or Seoul. Should the parent group elect to optimize, the effects will be first experienced by Slovakia. The advent of Volvo and Gotion in this third wave averted technological obsolescence; however, the issue of dependence on a single sector remained unresolved.

The Czech economy has historically demonstrated the highest degree of resilience among the V4 countries. It is important to note that Škoda Auto is not merely an assembly plant;

rather, it is a comprehensive entity that incorporates its own research, development, and design activities in Mladá Boleslav. Furthermore, the Czech Republic stands to benefit from substantial investment by ON Semi in the field of semiconductors. Consequently, the nation's exportation has expanded beyond mere sheet metal and plastics to encompass the fundamental components of modern automotive electronics. This structural advantage positions them at a significant competitive advantage over Slovakia.

Hungary has undergone a substantial economic restructuring, with a notable shift towards the chemical and battery manufacturing sectors. To ensure their continued viability, German automakers must secure batteries from Hungary's CATL. Budapest has thus established a distinctive symbiosis of Western capitalism and Eastern technology. The potential ramifications of this scenario, however, carry an element of political risk. In the event that the European Union implements stringent sanctions and tariffs on Chinese technologies, Hungary may find itself in a precarious position, vulnerable to the consequences of such measures, which could severely impact its pivotal investments.

Poland, given its substantial size, occupies a distinctly disparate position. In contrast to the preeminence of the automotive industry in Slovakia, its influence on the Czech Republic has been comparatively negligible. Poland's capacity for resilience is attributable to its diversification strategy. In the event of a deceleration in the automotive sector, sectors such as agriculture, the defense industry, construction, and the robust IT sector are poised to experience an augmentation in activity, thereby offsetting any such negative impacts. Furthermore, within the automotive sector, they did not invest in the assembly of expensive luxury cars. Instead, they established a European hub for battery cells (LG) and commercial vehicles, which is a more stable market.

Conclusion

The FDI in the automotive industry of the V4 countries over the span of three and a half decades stands as a remarkable example of economic transformation in the modern era. The region experienced an initial privatization shock in the 1990s, followed by a substantial post-integration economic surge after 2004, when Central Europe underwent a transformation that led to its recognition as the "Detroit of Europe." This was followed by a period of significant structural transformation after 2018. Foreign capital played an irreplaceable role in the region, as it did in other developing countries. It saved a collapsing industry, created hundreds of thousands of jobs, and integrated local economies directly into the core of global supply chains.

However, by 2026, it became evident that the underlying foundations of this success had been fully expended. The prevalence of a cost-effective yet proficient labor force has become a thing of the past. The ongoing demographic shift is compelling manufacturing facilities to allocate substantial resources toward automation initiatives and to seek the importation of labor from third countries as a strategic response. Furthermore, the geopolitical landscape has undergone a significant transition, marked by the adoption of electric mobility and a substantial influx of capital from Asia. This shift has resulted in a redistribution of regional influence.

The primary lesson derived from a span of thirty-five years of evolution is unequivocal: The original Central European model, predicated on inexpensive labor and the rudimentary integration of foreign concepts, has definitively reached its conclusion. In order to ensure their continued competitiveness in the face of the imminent demise of the internal combustion engine, the V4 countries must transition from a focus on physical capabilities to a more strategic and intellectual approach.

The region's future resilience will no longer be measured by the number of units produced per capita, but rather by the share of domestic value added. The key to survival

is the transformation of assembly halls into innovation ecosystems. Achieving this objective necessitates a substantial augmentation in the scope and intensity of domestic research and development initiatives, strategic investment in the autonomy of semiconductor and battery production, the decarbonization of the energy grid, and a comprehensive overhaul of the educational framework. For the past 35 years, the V4 region has demonstrated its capacity to produce automobiles in an effective and efficient manner. In the forthcoming decade, it is imperative that the nation demonstrate its capacity for autonomous conception, design, and technological oversight.

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SWOT ANALYSIS: TRANSFORMATION OF THE SLOVAK GAS SECTOR

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Abstract: The objective of this article is to analyze the geostrategic position of Slovakia in the energy sector, with a specific focus on the gas industry within the context of market globalization, liberalization, and diversification. Based on a SWOT analysis, we identified internal weaknesses, such as high import dependency and the historical eastward orientation of infrastructure, as well as external opportunities arising from European funding, regional interconnections, and technological progress. The analysis demonstrates that Slovakia operates within a relatively favorable external environment that facilitates the adaptation and innovation of energy infrastructure. This includes the transition to low-carbon fuels, the enhancement of electrification, and the development of hydrogen and biomethane sources. The article recommends strategic steps aimed at transforming current weaknesses into sources of future resilience, thereby strengthening the country's energy security and overall competitiveness.
Keywords: gas, diversification, globalisation
JEL: O38, P18, P28

Introduction

In current conditions, energy transformation represents one of the most critical strategic processes affecting economic stability, competitiveness, and national security. For the Slovak Republic, this transformation takes on particular significance in the gas sector, which has historically been founded on its transit function and a high degree of dependence on external supplies. Shifts in the geopolitical environment, the European Union's decarbonization targets, the pressure to reduce emissions, and the gradual electrification of the economy are fundamentally altering the operational landscape of the gas industry.

Strategic assessment via SWOT analysis allows for the systematic identification of internal factors (strengths and weaknesses) and external determinants (opportunities and threats)
that shape the future development of the sector. In the context of Slovak energy, the analysis points to a relatively favorable external environment characterized by the accessibility of European financial mechanisms, the diversification of supply routes, technological progress, and increasing regional cooperation. Conversely, it reveals internal weaknesses, notably a high dependence on gas imports, the historical eastward orientation of infrastructure, the energy intensity of industry, and a slower pace of structural transformation.

The aim of this article is to analyse the position of the Slovak Republic in the globalised natural gas market and to assess the possibilities for the transformation of the Slovak gas sector in the context of energy transition, decarbonisation, and geopolitical changes. The article focuses on identifying the key internal and external factors that influence the future development of the gas sector in Slovakia, while employing SWOT analysis as a tool for strategic assessment. In preparing the article, primarily secondary data sources were used, consisting of analytical reports from international organisations, European Union documents, strategic documents of the Slovak Republic, scholarly publications, and statistical data related

to the natural gas market, energy security, and energy transition. From a methodological perspective, the article mainly applies qualitative document analysis, the synthesis of knowledge from academic literature, and SWOT analysis as a tool for evaluating the internal and external environment of the gas sector. SWOT analysis was selected due to its ability to provide a comprehensive assessment of internal strengths and weaknesses, while simultaneously identifying external opportunities and threats arising from market globalisation, geopolitical developments, and the energy transition. The first part of the article examines the impact of globalisation on the natural gas market and the position of Slovakia within the European energy market. The second part presents a SWOT analysis of the Slovak gas sector and identifies its strengths and weaknesses, as well as opportunities and threats. The third part provides an overview of relevant academic literature and identifies the research gap in the field. The conclusion summarises the main findings of the analysis and formulates strategic implications for the future development of the Slovak gas sector in the context of the energy transition.

1 Globalization and Its Impacts on the Slovak Gas Market

Since 2009, the natural gas market in Europe has been characterised by dynamic changes. For Slovakia, which is geographically located along a significant transit route, these developments have acquired even greater strategic importance. The year 2009 represents a major turning point, when the gas crisis between Russia and Ukraine led to a complete interruption of gas transit through Slovakia for 13 days (Pirani, Stern, Yafimova, 2009) during the peak demand period (winter season). This resulted in a drop in system pressure and necessitated emergency measures, including the activation of storage facilities and restrictions on gas supplies for industrial consumers. This incident exposed not only the technical but also the political vulnerability of European infrastructure and became a catalyst for the adoption of the EU's Third Energy Package, which introduced ownership unbundling—i.e. the mandatory separation of energy production and supply activities from the operation of transmission and distribution networks in order to prevent vertical monopolies—along with the requirement for EU Member States to establish independent energy regulators and the creation of the Agency for the Cooperation of Energy Regulators. It also led to the implementation of mandatory third-party access (TPA) to transmission networks and the strengthening of reverse-flow capacities (Directive 2009/73/EC). For Slovakia, this meant investing in technical modifications of the network, enabling reverse flows from the West (from Austria and the Czech Republic) instead of exclusive dependence on the eastern supply route. This capability proved crucial during the subsequent crisis in 2014 (Eustream, 2011). The 2009 energy crisis accelerated the development of a single EU gas market, the liberalisation of the wholesale environment, and a gradual shift away from long-term oil-indexed contracts towards spot and hub-based pricing. The Ukraine crisis in 2014 and the military conflict in 2022 further transformed gas flows and accelerated the construction of LNG terminals. These events have also been reflected in the broader framework of energy policy and energy security considerations, which have ceased to be linked solely to the volume of supplies and have increasingly come to encompass their price, diversification, and the resilience of infrastructure.

In contrast to the abrupt supply disruption in 2009, the crisis of 2014 had a more gradual and geopolitically profound character. It emerged in connection with the annexation of Crimea, which led to the collapse of bilateral relations between Naftogaz and Gazprom (Naftogaz Group, Win for Naftogaz, 2018). Although gas transit to the European Union was not completely halted, the risk of a sudden supply interruption increased significantly, once again exposing the strategic vulnerability of Central European countries, including Slovakia. In response to this crisis, the European Union introduced the so-called "Winter Packages",

consisting of trilateral negotiations between the EU, Russia, and Ukraine aimed at ensuring minimum gas flows during the winter months (European Commission, Winter Package, 2016). Slovakia played a key technical role when, in September 2014, it launched reverse gas supplies to Ukraine via the Vojany–Uzhhorod interconnection, thereby becoming an alternative supplier of gas to Kyiv and, for the first time in its history, moving beyond the position of an exclusive transit country for Russian gas (Eustream, 2011). Another significant consequence of the crisis was the acceleration of legislative and infrastructural measures at the EU level, including the strengthening of the N-1 security standard, which requires each Member State to be capable of meeting its gas demand even in the event of a disruption of its largest supply route (Regulation 2017/1938). During the period 2014–2016, Slovakia expanded its gas storage capacities, strengthened interconnections with Austria (Baumgarten), Hungary (Veľké Zlievce), and the Czech Republic (Lanžhot), and began to make more active use of spot markets instead of traditional oil-indexed contracts..

Another critical turning point was the year 2022, marked by Russia's military invasion of Ukraine. This event not only triggered a severe price shock, with wholesale gas prices at European hubs (TTF) rising above 230 EUR/MWh (IEA, 2022), but also resulted in a dramatic decline in physical gas supplies from Russia to the European Union from approximately 40% to less than 19% of total imports (European Commission, Where does the EU's gas come from, 2025). In response, the European Union adopted the REPowerEU plan, aimed at eliminating dependence on Russian energy as quickly as possible, while the United States emerged as the main supplier of LNG to Europe (Institute for Energy Economics and Financial Analysis, 2025). These developments have been reflected in the broader framework of energy policy and energy security, which is no longer defined solely by the volume of supplies but increasingly incorporates their price, flexibility, diversification of sources, and the resilience of infrastructure. As a result, the energy market has evolved particularly for Slovakia into a space where natural gas is no longer merely a commodity, but has become a strategic instrument.

The globalisation of the natural gas market has accelerated since the turn of the 20th and 21st centuries, driven by the development of LNG technologies, the digitalisation of trading, and the liberalisation of energy markets within the European Union. These processes have led to increased interconnection between regions, but also to a new form of vulnerability namely, dependence on global price fluctuations and exposure to geopolitical shocks. Investment decisions in the Slovak gas industry, particularly in the field of gas and energy infrastructure, are therefore not made in isolation from political and geopolitical contexts. According to statements by SPP, a.s., Slovakia is closely interconnected with European and global energy security, and geopolitical factors directly influence its strategic orientation. The company emphasises that the current energy infrastructure is built upon diversification projects that emerged in response to the gas crises of the first decade of the 21st century, such as reverse flows from Austria, the interconnection with Ukraine via Budince, and new links with Hungary and Poland. These routes have enabled Slovakia to significantly increase supply flexibility and reduce dependence on a single direction of gas flow. At the same time, according to SPP, a.s., the liberalisation of the wholesale gas market in Europe has ensured that even countries without domestic production, such as Slovakia, can procure gas at prices comparable to those in the rest of the EU. Thanks to its well-developed infrastructure and interconnections with multiple markets, Slovakia is able to respond actively to price signals, optimise supply strategies, and contribute to the stability of the internal market. SPP, a.s. highlights that a developed infrastructure and an open trading model constitute the foundation of Slovakia's energy security in a globalised environment. The second part of this article applies a SWOT analysis to evaluate Slovakia's strengths and weaknesses within the context

of the globalised gas market, as well as the opportunities and threats arising from ongoing structural changes.

2 SWOT analysis

The analysis is based on identified trends of globalisation, diversification, and liberalisation of the natural gas market, complemented by geostrategic aspects of Slovakia's position within the Central European energy landscape. These trends fundamentally transform the nature of the gas sector—from a traditionally bilateral supply model towards a more flexible, market-integrated, and infrastructure-connected system in which LNG terminals, short-term contracts, regional trading hubs, and interconnected transmission networks play an increasingly important role. The globalisation of the natural gas market implies that price formation and commodity availability are increasingly influenced by global factors, including geopolitical tensions, developments in Asian markets, and LNG liquefaction and regasification capacities. For Slovakia, this represents both an opportunity and a challenge: on the one hand, access to a broader range of suppliers and the potential for enhanced energy security; on the other hand, increased exposure to price volatility and competitive pressures from stronger market players.

SWOT analysis is a strategic analytical tool used to evaluate the internal and external environment of an organisation, sector, or market, with the aim of identifying factors that influence the achievement of strategic objectives. The acronym SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. The analysis is conducted using four quadrants, where the first two assess internal factors, while the latter two focus on the external environment relevant to the analysed entity or context. The SWOT method was developed in the 1960s by Albert S. Humphrey during research conducted at the Stanford Research Institute, with the objective of analysing failures in large-scale projects and organisations (Humphrey, 1960). It has since become a fundamental tool of strategic planning, as it provides a clear and structured framework for identifying internal and external factors that influence decision-making.

Table 1: SWOT structured score

Strengths	**Rating**	**Weight**	**Weighted Score**
Location and Network	5.00	0.60	3.00
Connections to LNG Terminals	2.00	0.10	0.20
Underground Gas Storage	4.00	0.30	1.20
Weaknesses			
Dependence on Imports	5.00	0.20	1.00
Historical Reliance on Transit Position	5.00	0.75	3.75
EU Regulatory and Legislative Changes	3.00	0.05	0.15
Opportunities			
Diversification of Supply Sources	5.00	0.40	2.00
Trading and Flexibility Role	2.00	0.15	0.30
Modernization of Gas Infrastructure	4.00	0.45	1.80
Threats			
Long-term Decline in Gas Demand in the EU	3.00	0.45	1.35
Competitive Pressure from Neighboring Hubs	3.00	0.20	0.60
Price Volatility and LNG Geopolitics	3.00	0.35	1.05

Source: custom processing

Table 2: Summary of weighted score

Factor	Total Weight
Strengths	4.40
Weaknesses	4.90
Opportunities	3.00
Threats	4.10

Source: custom processing

The SWOT analysis has demonstrated that Slovakia's energy strategy, particularly in the gas sector, corresponds to a WO (Weaknesses–Opportunities) strategic position. Slovakia finds itself in a situation where external opportunities significantly outweigh threats, while internal weaknesses slightly prevail over strengths. This indicates that Slovakia operates within a relatively favourable external environment, offering numerous opportunities stemming from the globalised European market, new supply routes, European funding mechanisms, and technological progress. However, it simultaneously faces internal limitations that hinder its ability to fully exploit these opportunities, most notably a high dependence on imports, the structural orientation of infrastructure towards the East, the energy intensity of industry, and a slower pace of transformation. This implies that Slovakia should focus on addressing its internal weaknesses by leveraging favourable external conditions. In practical terms, this primarily involves diversifying supply sources and transit routes, adapting gas infrastructure to accommodate new fuels, reducing the energy intensity of industry, and strengthening regional cooperation. According to the analysis, Slovakia is in a position that is externally advantageous but internally vulnerable. The SWOT analysis suggests that the future direction of Slovakia's energy policy should not be oriented towards a defensive approach i.e. preserving the existing system but rather towards adaptation and innovation. A key priority for the energy sector should be the transformation of existing weaknesses into sources of future resilience. In the long term, there are opportunities to convert gas infrastructure for hydrogen and biomethane use, alongside the expansion of electrification and nuclear energy, and the reduction of energy consumption in both industry and households. At the same time, these developments are accompanied by the risk of economic non-viability. Leveraging favourable external conditions, such as European financial instruments, regional interconnections, and technological innovation represents a significant opportunity to strengthen the country's energy security and competitiveness.

3 Literature Review and Research Gap

This article has several limitations that must be taken into account when interpreting its results. The analysis is primarily based on qualitative assessment of secondary sources, strategic documents, legislative materials, and academic literature, without employing quantitative econometric models or detailed statistical analysis of the natural gas market. Therefore, the results of the SWOT analysis represent a strategic and qualitative evaluation rather than a precise quantification of the significance of individual factors and their economic impacts.. Another limitation of the research lies in the fact that the energy sector and the natural gas market are strongly influenced by geopolitical events, legislative changes, technological developments, and fluctuations in global energy prices, all of which evolve dynamically. The European energy market is particularly sensitive to geopolitical conflicts and instability in regions that are major producers of oil and natural gas. Current geopolitical tensions in the Middle East, including issues related to Iran and the security of maritime transport

in the Persian Gulf and the Red Sea, may significantly affect the prices of fossil fuels, especially oil and LNG, and indirectly influence natural gas prices in Europe. Such geopolitical developments contribute to energy price volatility, increase uncertainty in energy markets, and affect investment decisions related to energy infrastructure and the broader energy transition. At the same time, high fossil fuel prices and instability in global energy markets are accelerating the European Union's efforts to diversify energy sources, reduce dependence on fossil fuel imports, and promote the development of renewable energy, hydrogen, and renewable gases. These factors may significantly influence the future role of natural gas in the energy mix of both the European Union and the Slovak Republic, representing an additional source of uncertainty in assessing the future development of the gas sector. Further research opportunities lie particularly in the field of quantitative analysis of natural gas demand, the economic impacts of transforming gas infrastructure for hydrogen and renewable gases, as well as in modelling the future development of the Slovak Republic's energy mix.

European Union energy policy and the development of the internal energy market have been extensively analysed in studies focusing on the regulation of energy markets, the liberalisation of network industries, and energy security (Herweg et al., 2018; Stern, 2022). A significant area of research also concerns the functioning of the European natural gas market, including its pricing mechanisms, infrastructure, and supply diversification, particularly in the context of reducing dependence on a single supplier (Hafner & Tagliapietra, 2020). In recent years, academic literature has increasingly focused on the globalisation of the natural gas market, the development of the LNG market, the interconnection of regional markets, and the growing sensitivity of the European market to geopolitical events and price shocks. Several studies highlight that geopolitical conflicts, instability in producing regions, and disruptions in supply chains have a substantial impact on energy prices and Europe's energy security (IEA, 2023; European Commission, 2022). Despite the relatively extensive body of literature addressing European Union energy policy, the natural gas market, and energy security, there is a limited number of studies that comprehensively analyse the position of the Slovak Republic within the globalised natural gas market and the transformation of its gas sector in the context of decarbonisation, geopolitical changes, and the energy transition. The research gap therefore lies primarily in the strategic assessment of Slovakia's position in the globalised natural gas market and in the identification of its strengths and weaknesses, as well as the opportunities and threats it faces in a rapidly evolving energy environment.

Conclusion

The SWOT analysis confirms that the Slovak gas sector is situated in a potentially advantageous external environment, yet remains internally vulnerable. A key finding is the need to actively leverage favorable external conditions to systematically eliminate structural weaknesses. The diversification of supply sources and transit routes, the modernization and adaptation of infrastructure to accommodate new energy carriers particularly hydrogen and biomethane the reduction of the economy's energy intensity, and the strengthening of regional cooperation constitute the fundamental pillars of a future strategy.

The long-term sustainability of the gas sector will depend on its ability to integrate into the broader framework of the energy transition, which encompasses the development of low-carbon technologies, support for nuclear energy, electrification, and more efficient energy use. At the same time, it is essential to consider risks associated with declining gas demand in Europe, increasing competition among regional trading hubs, and price volatility in global markets. Natural gas can no longer be perceived as a stable and continuously growing commodity; rather, it should be understood as a transitional energy carrier whose role will gradually evolve in response to technological progress and climate objectives. The strategic

orientation of the Slovak Republic should therefore move toward proactive transformation rather than the passive preservation of the status quo. This entails systematic investment in intelligent infrastructure, the digitalization of network management, the promotion of innovation, and the creation of a regulatory environment that enables flexible responses to changing market conditions. A crucial aspect will also be the ability to effectively utilize resources from European financial mechanisms, which offer a unique opportunity to modernize the energy sector without imposing excessive burdens on public finances.

In the context of geopolitical changes, energy security is becoming an integral component of national security. The experiences of 2009, 2014, and 2022 have demonstrated that diversification is not merely an economic issue but a strategic necessity. The development of a multi-source supply model, the expansion of gas storage capacities, the strengthening of cross-border interconnections, and active participation in shaping regional initiatives are essential for enhancing resilience to future shocks. At the same time, the socio-economic dimension of the transformation must be emphasized. Energy policy cannot be isolated from industrial and employment policies. Reducing the energy intensity of industry, supporting innovation, and advancing technological modernization can enhance economic competitiveness and create new growth opportunities. Thus, the transformation of the gas sector need not imply its decline, but rather its qualitative evolution toward higher added value and technological sophistication.

In the long term, the decisive factor will be the ability to transform existing gas infrastructure into a platform for new energy carriers, particularly hydrogen and renewable gases. If this transformation is implemented in a coordinated and timely manner, Slovakia may become a significant regional hub for the distribution of low-carbon gases in Central Europe. Conversely, delays in adaptation processes could result in the loss of transit importance and economic weakening of the sector. In conclusion, the SWOT analysis confirms its value as an effective tool for strategic assessment and planning. The identification of weaknesses and their systematic transformation into factors of resilience and competitiveness constitute a fundamental prerequisite for successfully managing the energy transition. The future of the Slovak gas sector will not be determined solely by external circumstances, but above all by its capacity for internal adaptation to the evolving conditions of a globalized and decarbonizing energy market.

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SECTION V
CURRENT LEGAL, CULTURAL AND SOCIAL ISSUES OF INTERNATIONAL RELATIONS

OPERATIONALIZATION OF KEY CONCEPTS IN MEDIA ANALYSIS[1]

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Abstract: In an information landscape increasingly complicated by misinformation, propaganda, and generative artificial intelligence, media analysis serves as a vital tool for uncovering the systemic forces driving content production. However, executing rigorous media research depends heavily on how effectively scholars bridge the gap between abstract theory and empirical data. This article evaluates the operationalization of six key concepts in modern media analysis These concetps include: thematic content, tone, framing, language, ideology, and epistemological status. We analyze these concepts based on the degree of manifest and latent meaning their manifestations have, examining the distinct challenges they present regarding coding reliability, subjective bias, and potential for AI-driven automation. While manifest features like tone and thematic content lend themselves to highly reliable and automated coding, latent concepts like framing and ideology introduce complex interpretive burdens. Ultimately, this paper argues against sacrificing conceptual depth for empirical replication. We conclude that researchers should prioritize operational definitions with high theoretical relevance over strict inter-coder reliability, particularly within comparative research designs.

Keywords: Media Analysis, Operationalization, Latent Meaning, Ideology, Framing, Content Analysis, Artificial Intelligence.
JEL: L82

Introduction

Media analysis is the systematic process of examining, interpreting, and evaluating media content, such as printed media items, internet media, but also entertainment and social media. The goal of media analysis is to identify the nature of the media content with the view of uncovering essential characteristics of media content production. This has become increasingly important in a world filled with propaganda, misinformation and one-sided narratives. Good media analysis serves not just to understand the social world we live in better, but also carries social and political implications in its capability to educate the public on the agendas and biases present in the content that they consume.

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Emergence of artificial intelligence introduced new impulse in media analysis for two reasons. First, the large language models enable new ways to analyse large amounts of textual data through automated content analysis with coding consistency that actually surpasses human coding in several aspects. Second, the use of chatbots based on these LLMs is becoming an important source of information about the world for many people, which created new research domains for media analysis, with the content produced by these chatbots becoming an import medium themselves. Third, the proliferation of these chatbots makes propaganda more ubiquitous than ever, increasing the importance of bringing these phenomena to light.

In this article, we look at the issues that media analysis research faces when trying to analyse media content. More specifically, we are focusing on the issues that media analysis faces in operationalizing key analytical concepts. With human coding slowly becoming less important, creative operationalization becomes the key human input into media analysis. In the first part of the article, we identify the most significant concepts that scholars focusing on media analysis use to analyse modern media. In the second part, we discuss the main issues we are facing when using these concepts and present solutions to some of these issues.

1 Main Concepts of Analysis of Media Content

The main conceptualization of content in relation to media analysis rests on the difference between manifest and latent meaning of a unit of analysis. The manifest meaning of a piece of content is the meaning that is (relatively) easily observable, while the latent meaning is partially hidden/underlying. In terms of the topic of this article, the concepts related to latent meaning are the more complicated to operationalize, while the manifest meanings are easier. For example, it is much easier to determine a topic of a news article then the ideological bias present in it. While the latent meaning introduces significant challenges to reliability of a research project, they usually provide more interesting and often more valid results. While the topic choice of a newspaper is an important characteristic, in terms of theory, we are more interested in its ideological bias.

Depending on the research goals, scholars in media analysis most often focus on the following aspects of content: thematic content, framing, tone, language, ideology. When it comes to thematic content, what the scholars are generally trying to ascertain is the focus of a medium through their choice of topics, or for example, topic diversification (Müller & Freudenthaler, 2022). This can provide us with a meaningful conceptualization of the media space and the agenda-setting that the media perform in society.

Ideology remains one of the most challenging concepts to reliably operationalize in content analysis. It spans a diverse array of theoretical and methodological frameworks, ranging from traditional quantitative content analysis (Cushion et al., 2021) to post-structuralist approaches like critical discourse analysis (Richardson, 2007). Typically, this research aims to diagnose the ideological leanings or systemic biases within specific media texts or across the broader media ecosystem. This category also encompasses studies investigating media representation (Buyens & Van Aelst, 2021; Seresova, 2024) and partisan bias (Budak et al., 2016), with comparative analyses between mainstream and alternative media proving particularly fruitful.

While framing can be conceptualized as an extension of ideology under a broad definition, the theoretical maturity of framing analysis justifies its treatment as a distinct concept. Framing dictates how information is selected and structured, thereby actively shaping the underlying meaning of a narrative. In this study, the distinction between framing and ideology is primarily determined by analytical intent. Ideological analysis typically investigates the author or the institutional frameworks governing content production. Conversely, framing analysis focuses on the audience, specifically the potential effects

of content consumption. Although these two dimensions frequently overlap, framing maintains a distinct lineage in media effects research, with contemporary applications demonstrated by Klawier et al. (2022), Nygaard (2019), and Rana et al. (2024).

Tone, or sentiment of a piece of media refers to the emotional or attitudinal quality of media content. It is often studied in relation to affect, persuasion of audience engagement in ways that are similar to framing analysis. Tone can be studied both from the side of the creator of the piece of content, or from the side of the audience. The tone analysis often employs the concept of valence as the operational definition of tone with various application in fields from political science to healthcare (Coelho, 2026).

Scholars in media analysis are also often interested in language that is used in media content in order to make conclusions about its source, or its effect on the audience. We can find examples of this kind of analysis in Slovakia, with Patráš (2019) and Pastorková (2025). There are two strands or research in this domain. There are linguistically oriented research projects which seek to improve the understanding of language use. Then there are politically oriented research projects that seek to figure out political and social impacts of particular language use, such as use of sarcasm and metaphors (Oraby et al., 2017).

Finally, in today´s age, scholars are more and more interested in epistemological aspects on media content. This type of analysis, that focuses on the question of accuracy and reliability of media content is connected to a particular positivist philosophical tradition and uses concepts such as quality and number of sources, or expert opinion to identify misinformation, hoaxes, or ascertain epistemological quality of media content (Coddington, 2024).

2 Issues with Operationalization of Key Concepts in Media Analysis

In this section we are going to conceptualize the issues of operationalization of the presented concepts by focusing on respective difficulties that scholars face when using them, the level of reliability of using these concepts and their potential for automation of coding them.

For the thematic content, the main issue of operationalization is to choose a way that minimizes practical difficulties of coding. For example, when coding for topics, a common problem is to identify a topic for news items that can be coded under two different codes. We can have an article about electrical car industry with focus on environmental impact. If our coding scheme includes both environment and economy as a code, which should we choose? Even if we have non-exclusive coding, at which point does the importance of a topic in an article rises to the level of being coded? As a solution for this issue on the level of operationalization, we suggest using an emerging operational definition/coding scheme, which is not set in stone in advance, but adapts inductively to issues that emerge to accommodate them. Another decision that we face when coding this concept is the unit of coding that we will be using. In general, the choice is between the title and the whole article. Both offer a relatively high reliability of coding when done manually and also offer a high reliability when done automatically using artificial intelligence. The coding is slightly more complicated when we want to focus on prominence of the topic (headline, byline, editorial…).

Ideology represents a complicated concept to operationalize in media analysis due to its subjective and latent nature. The heavy theoretical nature of the concept of ideology gives a researcher a relatively firm footing on the level of theory. The research project only needs to pick one of many operational definitions of ideologies that are present in political science theory. The broad range to choose from, however, also presents a risk if the researcher lacks expertise in this domain, since the discourse on political ideologies often mixes popular culture with expert theory. An additional problem is posed by the subject/object dichotomy. The researcher is unable to approach the coding from an Archimedean neutral point. He or she will always look at a unit of coding from their own ideological viewpoint, which will naturally

influence their interpretation. Manual coding therefore faces issues of reliability due to the complex nature of the concepts involved. Automation is generally not recommended for ideology, although the recent advances in artificial intelligence present opportunities to test reliability of these new tools in a difficult task.

The concept of framing is similar to ideology in the sense of having a relatively established theoretical base. The choice to be made is between episodic and thematic framing. Episodic framing focuses on a specific event or individual case, and the thematic framing places the issue in a broader social or political context. Any operational definition of a framing device will necessarily have a relatively low reliability due to the latent nature of the concept. Similarly to ideology, automated coding should be approached with caution.

Tone represents a less problematic concept to operationalize, whether we code for positive/negative tone, or do a sentiment analysis. The coding usually achieves high level of reliability. Some potential issues to watch out for is the context of a unit of coding since that can influence the tone. For example, sarcastic piece of text can be mistakenly coded as positive when in fat having a negative context. An additional level of complexity can be introduced by operationalizing tone not just as positive/negative, but using the concept of valence to determine the strength of the sentiment present in text. Automated coding can be used for this concept. Even basic AI models are usually capable of determining a tone or a sentiment of a piece of text with very high reliability, except in case of high volume of sarcasm or metaphoric language.

Language represents the most varied concepts in terms of ways to operationalize it. There are a lot of aspects of language that can tell us something about a corpus of text, and there are a lot theoretical frameworks that can be applied to this broad concept. For example, we could try to figure out how often a piece of text uses metaphors, idiomatic expressions, exaggeration, rhetorical questions etc. This can tell us something about style of writing or other linguistic and cultural theoretical frameworks. The meaning in this analysis can be highly manifest, when coding for example use of adjectives, or relatively latent, when coding colloquialisms. The nature of coding should correspond to the level of complexity of the operational definition.

Finally, for the issue of accuracy and reliability of media content, the issue of operationalization is almost impossible to solve satisfactorily. Even if we ignore the philosophical issues of subjectivity and discursive reality and remain strictly within positivist framework, we still don´t have a scientific way to determine, for example, the accuracy of a news item. We should be sceptical towards research that uses operational definitions bases on concepts such as hoax or misinformation that are not well theoretical based (Uličný, 2022) The operational definitions that we find somewhat relevant are based on the concept of scientific consensus (Sunyík & Uhrecký, 2025), that can be determined by meta-analysis of scientific sources, or use a proxy concept for accuracy and reliability, such as closeness to the source of information, or variety of sources. Once the operational definition is chosen, the coding itself can be relatively straightforward, since the meaning is often manifest. This is true both for the operational definition based on scientific consensus, and the analysis of type and number of sources.

The issues presented in the previous paragraphs make it clear that the choice of operational definition will strongly influence the nature of the coding. Scholars should not be discouraged by potentially low reliability in cases of coding issues such as ideology or framing. We encourage the scholars to choose challenging operational definitions, since these usually lead to more theoretically relevant, if less reliable results. We argue that reliability can be overestimated, especially in cases where the nature of the research project makes this issue less relevant. For example, in comparative research designs, even low reliability of coding can lead to relevant results, since the coding is presumably ultimately done by a single coder,

who will have a single frame of reference (although with personal biases) for the coding. For example, if the coder is predisposed to "see" conservatism in everything, the research project would still get a meaningful comparison of two media outlets, since the coder would still code more coding units as conservative in the objectively more conservative source than in the source that is objectively less conservative.

Conclusion

In this article, we analysed different ways to operationalize main analytical concepts in the domain of media analysis. We identified six core concepts frequently utilized in media research that require precise operational definitions. These included thematic content, tone, ideology, framing, language and epistemological status. For each of the concepts, we suggested several operational definitions and we analysed the issues that scholars face when using these concepts based on the degree to which they have manifest or latent meaning and the issues related to coding using these operational definitions. We concluded that while the issues of operationalisation represent a significant challenge for scholars in media analysis, the aim should be to use operational definitions with the highest possible theoretical relevancy, even if it comes at the expense of reliability. By consciously navigating this trade-off between manifest reliability and latent validity, researchers can produce media analyses that are not just methodologically sound, but substantively meaningful.

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RECENT DEVELOPMENTS IN THE LEGAL FRAMEWORK GOVERNING THE ADVERTISING OF CONSUMER CREDIT UNDER EUROPEAN AND SLOVAK LAW

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Abstract: Consumer credits play an irreplaceable role among the financial products offered to retail clients (consumers). In this paper, we focus on the regulation of their advertising, which has recently become increasingly stringent. The relevant legal framework has several overlapping dimensions in both EU law and Slovak law. This paper aims to provide a deeper overview of this regulation and analyses its future trends.
Keywords: Consumer credit, advertising, Consumer Credit Directive, Unfair Commercial Practices Directive
JEL: K33, F35, F63

Introduction

In order to achieve their marketing objectives, entrepreneurs use a specific set of marketing tools, commonly referred to as the marketing mix. The term was first used by Prof. Neil Borden in 1964, referring to a set of 12 tools, which E. J. McCarthy subsequently reduced to four basic elements, the so-called 4Ps – product, price, place (or distribution) and promotion. Other authors have added further Ps, such as people, politics or public opinion. For the sake of completeness, it should be noted that in theory there are also other concepts of the marketing mix, such as the 4S, the new 4P model proposed by Arussy, the 4A or the 4C (Hanuláková et al., 2021). In this paper, we draw on McCarthy's original 4P model. Marketing communication (promotion) is implemented through the tools of the so-called communication mix, which include advertising, sales promotion, public relations and direct marketing (Machková, 2006). Advertising plays an irreplaceable role amongst these.

For the purposes of EU law, advertising is defined in the Misleading and Comparative Advertising Directive (hereinafter referred to as "MCAD") as *'the making of a representation in any form in connection with a trade, business, craft or profession in order to promote the supply of goods or services, including immovable property, rights and obligations'* (Article 2(a) MCAD). A similar definition is contained in Slovak Act No. 147/2001 Coll. on Advertising (hereinafter referred to as "Advertising Act" or "AA"), according to which advertising means *a demonstration, presentation or other communication in any form relating to commercial, business or other gainful activity with the aim of placing products on the market* (Article 2 (a) AA). The presentation of business products is understood to mean any form of presentation, demonstration or introduction of business products with the intention of attracting the attention of potential consumers. A product is deemed to be all results of business activity, as well as rights and obligations of an intangible nature related to business activity. The subject of advertising may thus be products, goods, services, performances and other values of a tangible and intangible nature for which advertising is not prohibited under the Advertising Act (Winkler et al., 2023).

The Advertising Act distinguishes between the advertiser and the advertisement distributor. The advertiser is the person who commissions the advertisement distributor to disseminate the advertisement, whilst the advertisement distributor is a natural or legal person

who disseminates the advertisement (Article 2(1)(c) and (f) AA), i.e. the person who presents the advertising message, in particular via communication media, to an unspecified group of entities or, in the case of advertising targeted at a specific group, in relation to that group of persons, provided that it can still be considered dissemination in relation to the public. Thus, the role of the advertisement distributor will usually be played by, for example, a media agency, a newspaper publisher, a leaflet distributor to letterboxes etc. (Winkler et al., 2023).

The legal framework governing the advertising of consumer credit has its own specific features. These stem not only from the nature of the product itself, which is a financial service, but also from the nature of the target group for which this advertising is intended – consumers. Consequently, the regulation of consumer credit advertising is subject to:

1. general advertising requirements,
2. special requirements for consumer protection in advertising communication,
3. special requirements for consumer protection in the advertising of consumer credit.

These legal provisions not only complement, but also overlap and sometimes even contradict one another. Furthermore, it is necessary to take into account that the original legislation arising from the Consumer Credit Directive (hereinafter referred to as "CCD I") was replaced, with effect from 20 November 2026, by the new Consumer Credit Directive (hereinafter referred to as "CCD II"). In Slovak legislation, this has resulted in the replacement of the original Act No. 129/2010 Coll. on consumer credit and other loans and credits for consumers and on amendments to certain acts (hereinafter referred to as "ACC 1"), with effect from 20 November 2026, by the new Act No. 312/2025 Coll. on consumer credit and other loans and borrowings for consumers and amending certain acts (hereinafter "ACC 2"). When identifying the applicable legal framework, it is therefore necessary, in addition to applying logical and legal-interpretative rules (such as *lex specialis derogat generali*), to take into account the intertemporal provisions of European and Slovak sources of law.

The aim of this paper is to identify the current legal framework governing the advertising of consumer credit in the Slovak Republic and under EU law, as well as its evolving trends, using scientific methods, in particular analysis, synthesis, logical and legal-applied scientific interpretation, as well as comparative methods and the methods of abstraction and deduction.

1 The legal framework of general requirements for advertising in the law of the Slovak Republic and in EU law

General legal obligations relating to advertising in the Slovak Republic are governed by several Acts, in particular the Advertising Act, Act No. 186/2009 Coll. on Financial Intermediation and Financial Advisory Services and on Amendments to Certain Acts (hereinafter referred to as the "AFIFA"), Act No. 264/2022 Coll. on Media Services and on Amendments to Certain Acts (hereinafter referred to as the "AMS") and Act No. 452/2021 Coll. on Electronic Communications (hereinafter referred to as the "AEC").

According to the Advertising Act, both the advertiser and the advertisement distributor must ensure that:

- the advertisement meets the general requirements defined in Article 3, for example:
  - that it does not contain anything that would undermine human dignity, offend national or religious sensibilities, or contain any discrimination on the grounds of sex, race or social origin,
  - that it does not promote violence, vandalism or vulgarity, and that it does not incite unlawful conduct or express approval of it,
  - that it does not present nudity in an offensive manner,
  - that it does not endanger the physical or mental health of a person,
  - that it does not contain personal data or information about a person's financial circumstances without their prior consent,

- that it does not refer to statements made by other persons without their prior consent,
- that it does not infringe upon the rights of others without their consent,
- that it meets the requirements for public speech, adheres to the principles of linguistic culture, grammatical and spelling rules, the rules of pronunciation of the Slovak language and established technical terminology,
- that it is not distributed via an automatic telephone dialling system, fax or email without the prior consent of the user who is the recipient of the advertisement,
- that it is not distributed to specific addresses if the addressee has refused to receive the advertisement in advance,
- that it does not contravene public decency and does not promote services the provision of which is prohibited;

- any comparative advertising (i.e. advertising that directly or indirectly refers to another competitor or their products) was not unlawful (cf. Article 4) (Vozár et al., 2021).

At the same time, the so-called misleading advertising is also prohibited, though not directly by the provisions of the Advertising Act. Misleading advertising is defined by the Commercial Code (hereinafter "CC") within the specification of the individual elements of unfair competition (Article 45(1)) and is also prohibited thereby (Section 44(1) *in fine*). *Misleading advertising is advertising of goods, services, immovable property, a trade name, a trade mark, designations of origin of products and other rights and obligations, which misleads or is likely to mislead the persons to whom it is addressed or to whom it reaches, and which, as a result of its misleading nature, is likely to influence the economic behaviour of those persons or which harms or is likely to harm another competitor or consumer.*

Where the advertiser is a financial intermediary or financial adviser, the legal requirements for the advertising and promotion of financial intermediation and financial advice set out in Article 34 AFIFA also apply to them. Under the aforementioned provision, *all information contained in the advertising and promotion of financial intermediation or financial advice must be consistent with the further information that the financial agent or financial adviser provides to the client when carrying out financial intermediation or financial advice (...). Advertising and promotion directed by a financial agent or financial adviser towards a client or potential client must always be identifiable as advertising or promotion; if, given the circumstances, the nature of the information is not obvious to the client or potential client, the financial agent or financial adviser must include clear information in the advertising or promotion stating that it is advertising or promotion.* Naturally, if the advertisement or promotion of financial intermediation or financial advice contains an offer to conclude a contract for the provision of a financial service (in our case, a consumer credit agreement) and, at the same time, this advertisement or promotion specifies the method of response or includes a reply form, it must also contain the relevant information relating to that offer required by the law.

The AMS contains general provisions on commercial communications in the media, defined as audio, visual or audiovisual information that directly or indirectly promotes goods, services or the reputation of a person engaged in economic activity, and is provided as part of a user-generated programme or video, or accompanies a user-generated programme or video in return for payment or similar consideration, or for the purposes of self-promotion, or constitutes an advertising programme service (Article 71(1)).

Commercial communications in the media include, in particular (Article 71(2) AMS):

a) an advertising message (e.g. a television or radio spot),
b) teleshopping (a direct offer broadcast to the public with the aim of providing goods or services, including immovable property, rights and obligations, in return for payment),

which may take the form of either a teleshopping spot or a teleshopping block lasting at least 15 minutes without interruption,

c) sponsorship (this is a contribution intended to directly or indirectly finance a content service with the aim of promoting the name or trade name, trademark, goodwill, goods or activities of the person who provided such a contribution),
d) product placement (audio, visual or audiovisual information about goods, services or a trade mark, incorporated into a programme or user-generated video in return for payment or other similar consideration),
e) an advertising programme service, which may take two forms – a programme service intended solely for self-promotion (e.g. a broadcaster's separate channel promoting its programme service broadcast on other channels) and a programme service intended solely for the broadcasting of advertising messages and teleshopping; and
f) an advertising programme (e.g. where the entire programme is devoted to promoting the services of a specific bank) (Winkler et al., 2023).

Surreptitious commercial communication in the media is any audio, visual or audiovisual message that directly or indirectly promotes the goods, services, a trade mark, a trade name or the activities of a person engaged in economic activity, where the broadcaster or provider of an on-demand audiovisual media service deliberately uses such information within a programme for promotional purposes and, given its nature, could mislead the public as to the nature of that information. Such information shall be deemed to be intentional in particular where it is provided in return for payment or other consideration. Surreptitious commercial communications in the media are prohibited (Article 72 AMS).

Commercial communications in the media must be easily distinguishable. Commercial communications in the media that exploit subliminal perception are prohibited (Article 73 AMS).

The general restrictions on commercial media communications are (Article 74 AMS):

a) it must not infringe upon freedom and equality in the dignity and rights of people,
b) it must not contain or promote discrimination on the grounds of sex, race, skin colour, language, faith and religion, political or other opinion, property, disability, age, sexual orientation, birth, national or social origin, genetic characteristics, citizenship, nationality or ethnicity,
c) must not encourage conduct that harms or endangers health or safety,
d) must not encourage conduct that seriously harms environmental protection.

Certain legal limits in the field of direct marketing are laid down by the AEC. Direct marketing is understood to mean any form of presentation of goods or services in written or oral form, sent or presented via a publicly available service directly to one or more subscribers or users (Article 116(2)), e.g. by telephone, SMS or email. For the purposes of direct marketing, the AEC permits the use of automatic dialling and communication systems, fax, email, SMS or MMS only with the prior consent of the addressee obtained before they are contacted (Article 116(3)).

Slovak legislation on misleading and comparative advertising is based on the MCAD (cf. Article 2(b), (c)). Although the MCAD was originally classified as a consumer protection directive, following the adoption of the Unfair Commercial Practices Directive (hereinafter referred to as "UCPD"), the MCAD was moved from the B2C to the B2B category (Micklitz et al.). The legal framework for general restrictions on commercial communications in the media is based on the Audiovisual Media Services Directive (cf. Article 9).

2 The special requirements for consumer protection in advertising communication under the law of the Slovak Republic and EU law

In the Slovak Republic, the general legal framework governing the advertising of services to consumers is set out in Act No. 108/2024 Coll. on Consumer Protection and on Amendments to Certain Acts (hereinafter referred to as the "Consumer Protection Act" or "CPA"). For the purposes of the CPA, a service is understood to mean *any activity or performance offered or provided to a consumer, including digital services and activities governed by specific regulations, over which professional chambers or other public administration bodies, such as consumer protection supervisory authorities, exercise supervision or oversight* (Article 2(b)). The National Bank of Slovakia is undoubtedly one such supervisory authority (Article 26(1)(a) CPA); therefore, the provision of consumer credit is certainly also a service within the meaning of the CPA. Advertising of services within the meaning of the CPA is subject to the following rules:

- where the consumer is required to contact the trader (in this case, the creditor) by telephone on a high-rate number or by text message (SMS) at a high rate in order to obtain the service, the trader (creditor) is obliged to state in the advertisement for that service accurate and complete information regarding the unit price of the call, the unit price of a short text message (SMS) or the maximum possible price of a call or short text message (SMS) that the consumer is required to pay for the call or short text message (SMS) (Article 4(1)(b)),
- the trader (creditor) is obliged to refrain from unfair commercial practices (cf. Article 9 et seq.),
- a trader (creditor) is required to provide, in the context of advertising and marketing, the so-called essential information requirements in relation to commercial communications (Article 11(9)).

Consumer protection requirements relating to advertising and marketing communications are based on EU legislation. The key piece of legislation in this regard is the Unfair Commercial Practices Directive (UCPD). This Directive prohibits unfair commercial practices. A commercial practice shall be unfair if it is contrary to the requirements of professional diligence and it materially distorts or is likely to materially distort the economic behaviour of the average consumer or of the average member of the group (cf. Article 5(2) UCPD). A commercial practice shall particularly be unfair if it is misleading (Articles 6 and 7 UCPD) or aggressive (Articles 8 and 9 UCPD). A misleading commercial practice contains false information or deceives or is likely to deceive the average consumer, even if the information is factually correct and causes or is likely to cause him or her to take a transactional decision that he or she would not have taken otherwise. This also applies to any marketing of a product, including comparative advertising, which creates confusion with any other product, trade mark, trade name or other distinguishing mark of a competitor. A misleading omission is also an unacceptable misleading practice towards the consumer, i.e. a commercial practice (including marketing and advertising practices) that omits material information that the average consumer needs to take an informed transactional decision and thereby causes or is likely to cause the average consumer to take a transactional decision that he would not have taken otherwise. The UCPD sets out examples of misleading and aggressive commercial practices in its annex. Misleading commercial practices relating to the promotion of consumer credit include, for example, advertorial or the presentation of the consumer's legal rights as a distinctive feature of the trader's offer. Such aggressive commercial practices include, for example, creating the false impression that the consumer has won or will win a prize or receive some other similar benefit.

The specific requirements for consumer protection in advertising communications also include requirements for a trader's marketing communications with consumers when providing

financial services at a distance. The original Distance Marketing of Financial Services Directive (DMFSD I) was replaced, with effect from 19 June 2026, by DMFSD II. Consequently, in the Slovak Republic, the original Act No. 266/2005 Coll. on the protection of consumers in respect of distance financial services and amending certain acts was replaced, with effect from 19 June 2026, by the new Act No. 311/2025 Coll. on the protection of consumers in respect of distance financial services and amending certain acts. This Act (following on from the DMFSD II) does not directly regulate the advertising of financial services to consumers, but only the information obligations that a trader (lender) is required to provide to the consumer. This information may be provided not only in the form of advertising (promotion), but also in the form of a targeted and personalised offer.

3 The special requirements for consumer protection in the advertising of consumer credit

Finally, we come to the legal regulation of specific requirements for consumer protection in the advertising of consumer credit. The source of the legal framework in this case under Slovak law is Article 3 ACC 1 and, with effect from 20 November 2026, Article 3 ACC 2. In EU law, Article 4 of the CCD II applies.

Under Article 3 of the ACC 1, any advertisement (or other offer of consumer credit) that states the interest rate on the consumer credit or any numerical figure relating to the total cost to the consumer of the consumer credit must set out, in a clear and concise manner, in the form of a representative example, the following information:

a) the interest rate of the consumer credit, whether fixed or variable or both,
b) details of the charges included in the total cost of the credit to the consumer,
c) the total amount of the consumer credit,
d) the annual percentage rate of charge (APR),
e) the repayment period of the consumer credit,
f) in the case of a consumer credit in the form of deferred payment for specific goods or services, the total price of the goods or services and the amount of any down payment,
g) the total amount the consumer must pay, and the amount and number of instalments.

If a condition for obtaining a consumer credit on the terms offered is the conclusion of an insurance contract related to the consumer credit agreement, and if the costs associated with this insurance contract cannot be determined in advance, the advertisement shall clearly and comprehensively state the obligation to conclude an insurance contract.

This provision is based on Article 4(1) of the CCD I, according to which any advertisement for credit agreements that mentions an interest rate or any figures relating to the costs to the consumer associated with the credit must include standard information on consumer credit; this obligation does not apply where national legislation requires the annual percentage rate of charge to be stated in advertising relating to credit agreements in which no interest rate or any figures relating to any costs to the consumer associated with the credit are mentioned. Our legislator has not made use of this option to tighten the rules; that is to say, provided that the advertisement does not state the interest rate or any other figures relating to the consumer costs associated with the credit, it need not contain the standard information on consumer credit set out in the Directive. This is a specific category of standard information to be included in advertising (cf. the heading of Article 4(1) of the CCD I). Presumably due to the potential for confusion between this term and other types of standard information, our legislator does not use this term from the Directive and refers only to ‘information’. However, our law goes beyond the scope of the term ‘advertisement’ and requires this information to be provided in any offer of consumer credit that states its interest rate or any numerical figure relating to the total cost to the consumer associated with the consumer credit.

We have already commented on the term "advertising" above. An offer of consumer credit within the meaning of this provision must be understood to include not only a targeted offer but also an untargeted offer of this financial product to which the legal conditions apply, i.e. it specifies the interest rate of the consumer credit or any numerical figure relating to the total cost to the consumer associated with the consumer credit. This includes, for example, stating that the consumer credit is free of charge or has a zero interest rate. In accordance with the EU-compliant interpretation, the provision of Article 3(1) ACC 1 must be interpreted as meaning that the indication of the interest rate or other numerical data relating to the total cost to the consumer associated with the consumer credit applies to both the advertising and the offer of consumer credit. In other words, if an advertising or offer merely presents a consumer credit product from a specific provider without including any information on the price of that financial product, it is not necessary to include the further specified standardised information. For example, if a bank or other creditor were to state only that it offers (among other things) consumer credit, or that its consumer credit is the cheapest on the market or provided on the most favourable terms, this would not constitute the kind of advertising (offer) in which standardised information must be provided. Of course, such advertising is also subject to the legal restrictions under Article 4 of the Advertising Act (comparative advertising) and Article 45 CC (misleading advertising), and the advertiser would have to be able to prove such claims in the advertising.

We have already commented on the terms 'advertiser' and 'advertising distributor' above. The question is: to whom does the provision of Article 3(1) of the ACC 1 impose obligations regarding consumer credit advertising – the advertiser or the advertising distributor? The provision is worded as if it imposes obligations on both these persons, but in reality the ACC only sanctions the advertiser – the creditor – for breaches thereof (see Article 23), and this is done by the supervisory authority – the National Bank of Slovakia. This does not, however, mean that the distributor of consumer credit advertising that breaches the provisions of the ACC is exempt from liability. If they were to breach general advertising requirements, which include a breach of the provisions of Article 3 of the ACC 1 (cf. Article 3(5) of the Advertising Act, according to which *advertising must not be disseminated if it is contrary to public morality, presents products whose manufacture, sale, provision or use of which is prohibited, or if it does not meet the requirements under a specific regulation*, where reference is made specifically to Article 3 of the ACC 1), they face a fine under Article 11(3)(c) of the AA ranging from EUR 300 to 4% of turnover for the previous financial year, up to a maximum of EUR 100,000. This fine may be imposed by the supervisory authority, which, as in the case of the advertiser, is the National Bank of Slovakia (Article 10(1)(e) of the AA). When imposing fines, the National Bank of Slovakia proceeds in so-called sanction proceedings (Slezáková et al., 2018).

Information published in an advertising or offer for a consumer credit must comply with both the substantive and formal legal requirements. The legal substantive requirements include:

a) the interest rate,
b) details of the charges included in the total cost of the consumer credit,
c) the total amount of the consumer credit,
d) the annual percentage rate of charge (APR),
e) the repayment period of the consumer credit,
f) the purchase price of the goods or services and the amount of the deposit (only in the case of a consumer credit in the form of deferred payment for specific goods or services),
g) the total amount the consumer must pay, the amount and number of instalments.

Re a): The interest rate is a fundamental component of the cost of a consumer credit. The interest rate on a consumer credit is defined as *the interest rate expressed as a fixed or*

variable percentage applied on an annual basis to the amount of the consumer credit drawn down (Article 2(j) of the ACC). A fixed interest rate is understood to mean *a single consumer credit interest rate agreed between the creditor and the consumer in the consumer credit agreement for the entire duration of the consumer credit agreement, or multiple consumer credit interest rates agreed between the creditor and the consumer in the consumer credit agreement for specific periods, with the exclusive use of a fixed specific percentage; if not all consumer credit interest rates are specified in the consumer credit agreement, the consumer credit interest rate shall be deemed fixed only for those partial periods for which the consumer credit interest rates are determined exclusively by applying a fixed specific percentage agreed upon at the conclusion of the consumer credit agreement* (Article 2(k) of the ACC 1). A variable interest rate is not defined in the Act or the Directive, but it is clear that if the legal conditions for a fixed rate are not met, the rate will be variable. A fixed rate need not be tied to the entire repayment period of the consumer credit, but only to certain periods thereof (e.g. 2% per annum in the first year of repayment, 4% per annum in the second year, 6% per annum in the third year and 8% per annum in the final year). A variable rate is not fixed, but depends on developments in the financial markets, e.g. on a specifically defined index or reference rate, such as the 3-month EURIBOR, the 1-month PRIBOR or reference interest rates set by the European Central Bank, e.g. for overnight refinancing operations or overnight sterilisation operations.[1] A fixed mark-up representing the lender's margin is added to these reference interest rates. In practice, variable interest rates are rarely used for consumer loans.

Re b): The fees that the consumer is required to pay include, for example:

- a loan approval fee,
- a loan origination fee,
- a fee for drawing down the loan or a tranche thereof,
- credit card issuance fee,
- account maintenance fee, provided that opening the account is not voluntary for the customer,
- credit card usage fee, etc.

A distinction must be made between the fees paid by the consumer and the so-called total cost of the consumer credit. This term is defined in Article 2(g) of the ACC 1 and has a broader meaning, i.e. it also includes the fees paid by the consumer. The annual percentage rate of charge is then calculated from the total costs associated with the consumer credit (see letter (d) below).

Re c): The total amount of the consumer credit is *the maximum amount or the sum of all funds provided under the consumer credit agreement*. Consumer credit may be drawn down in a single instalment or in instalments. In the case of a single drawdown, the total amount of the consumer credit is the amount drawn down. In the case of drawdowns in instalments, the total amount of the consumer credit is the sum of all the amounts drawn down (tranches) of the credit. However, there is also a third option, which is drawing down the loan at the consumer's discretion, up to a certain credit limit (ceiling). In this case, the advertising (offer) states the maximum (available) amount as the total amount of the consumer credit.

Re d): The annual percentage rate of charge (APR) is a numerical indicator defined in Article 2(i) of the ACC 1 as the total cost to the consumer associated with a consumer credit agreement, expressed as an annual percentage of the total amount of the consumer credit calculated in accordance with Article 19 of the ACC 1. Article 4(2)(c) of the CCD I allows Member States, in the case of consumer credit granted in the form of an authorised overdraft,

[1] The ECB's key interest rates are published e. g. here: https://nbs.sk/statisticke-udaje/financne-trhy/urokove-sadzby/urokove-sadzby-ecb/.

to decide that the APR need not be stated in the advertising (offer) for such credit. However, the Slovak legislator has not made use of this option.

The general requirements for the advertising of consumer credits in terms of their price are set out in greater detail in the Opinion of the Financial Market Supervision Department of the National Bank of Slovakia of 24 April 2017 on certain issues relating to the advertising of the price of credit products [Stanovisko Útvaru dohľadu nad finančným trhom Národnej banky Slovenska z 24.4.2017 k niektorým otázkam týkajúcim sa propagácie ceny úverových produktov] (hereinafter referred to as the "FMSD Opinion"). In Article 3(19), the FMSD Opinion clearly states that the APR is one of the most relevant pieces of information for consumers regarding credit products, unlike, for example, the interest rate. Therefore, particular attention must be paid to the APR and the accuracy of its calculation. Details on the calculation of the APR are set out in the Regulation of the National Bank of Slovakia No. 5/2020, establishing details regarding the calculation of the annual percentage rate of charge for consumer credits and also in the Guidelines on the application of Directive 2008/48/EC in relation to costs and the Annual Percentage Rate of charge (hereinafter referred to as the "Guidelines").

Article 3(9) of the FMSD Opinion states: *Where creditors provide information on the price or any component thereof in the promotion of credit products, they are obliged to provide accurate, truthful, unbiased and non-misleading information in a clear, comprehensible, appropriate and unambiguous manner; they must not omit or conceal material information; and, information on the price, even if factually correct, must not be capable of misleading the average consumer and must not be capable of causing the average consumer to take a transactional decision that he would not have taken otherwise.* As the FMSD Opinion points out, a breach of this obligation would constitute conduct by the creditor contrary to the requirement of professional diligence and may significantly distort the economic behaviour of the average consumer, as a result of which it may fulfil the elements of an unfair commercial practice, in particular misleading practice or a misleading omission. We have already addressed this concept above. As the FMSD Opinion notes, *a decision on a commercial transaction is therefore considered to be a broad spectrum of decisions taken by the consumer in relation to a product, including the most common decisions made by the consumer prior to the actual purchase. The term in question encompasses any decision by a consumer that is directly related to their decision as to whether or not to purchase a particular product, regardless of whether their decision regarding a commercial transaction actually leads to the conclusion of a contractual relationship between them and the creditor. This therefore also includes, for example, a consumer's decision to visit the creditor's branch on the basis of a credit product advertisement, to agree to a sales presentation of the product, or the consumer's actions aimed at refinancing a loan with the intention of using a different, more advantageous credit product, whereby it is not decisive for the assessment of the unfairness of commercial practices whether the conclusion of a credit agreement, or a new credit agreement, actually takes place* (Article 3(15)).

Re e): The repayment period of a consumer credit represents the duration of the consumer credit agreement (this term is used in Article 4(2)(d) of the CCD I). It is the period by the end of which the consumer credit, together with any ancillary charges, must be repaid. This may also be an indefinite period (cf. Article 14 of the ACC 1). In such a case, this fact must be stated in the advertising (offer). In the case of an authorised overdraft where the repayment date is unknown, only the frequency (e.g. once a year) or the date (e.g. 30 June of each calendar year) by which the authorised overdraft must be settled shall be stated.

Re f): In the case of a consumer credit in the form of deferred payment for specific goods or services, the retail price of the goods or services and the amount of the deposit paid must also be stated. This deposit is effectively the first instalment paid by the consumer (down

payment). It is usually higher than the other instalments and is expressed as a percentage of the total value of the goods or services. The difference between the price of the goods (services) and the deposit represents the principal amount of the consumer credit provided. By its very nature, this type of consumer credit may result in the conclusion of either two related but separate contracts (Mihai, 2011) – a contract of sale or a contract for the provision of services (e.g. a contract for work) and a consumer credit agreement, or a single mixed contract containing elements of several contracts.

Re g) The total amount payable by the consumer is *the sum of the total amount of the consumer credit and the total costs to the consumer associated with the consumer credit* (Article 2(h) of the ACC 1). The total amount of the consumer credit is defined in Article 2(l) of the ACC 1 and the total costs to the consumer associated with the consumer credit in Article 2(g) of the ACC 1.

The statutory formal requirements for the advertising or offering of a consumer credit include:

1. clarity,
2. conciseness,
3. clarity,
4. compliance with the format of a representative example.

Details regarding the representative example in an advertisement or offer for a consumer credit are set out in point 2.5 of the Guidelines. The purpose of the representative example is to make the APR and the total cost of the credit to the consumer easier to understand. This requirement under point 4 is therefore closely linked to the formal requirement under point 1.

In the representative example provided, the terms and conditions of the specific consumer credit that the consumer can actually obtain from the creditor should take precedence over general market conditions. As explicitly stated in the Guidelines, *otherwise there could be significant discrepancies between the information provided in the advertisement and the information provided to the consumer prior to and at the time of concluding the contract. The risk of this happening is higher in the case of loans intended for groups of consumers who are particularly vulnerable, or in the case of low-value or short-term loans.* The representative example with the APR calculation should comply with the criteria set out in Annex I to the CCD I under the section 'Additional assumptions for the calculation of the annual percentage rate of charge', e.g.:

- if the credit agreement allows the consumer to draw down funds at will, the total amount of the credit is deemed to have been drawn down immediately and in full,
- if the credit agreement allows funds to be drawn down in various ways with different fees or interest rates, the total amount of the credit is deemed to have been drawn down at the highest fee and interest rate applicable to the most commonly used method of drawing down funds under this type of credit agreement,
- if there is no fixed repayment schedule, it is assumed that the loan is granted for a period of one year and is to be repaid in twelve equal instalments at monthly intervals,
- if the maximum loan amount has not yet been agreed, the maximum amount is deemed to be EUR 1,500,
- if the duration of the credit agreement is unknown, the annual percentage rate of charge is calculated on the assumption that the duration of the credit is three months etc.

In connection with the provision of consumer credit, insurance policies are often concluded, e.g. to ensure repayment through insurance against the loss of the client's source of income, but this may also include credit insurance, travel insurance, purchase insurance or motor insurance (Article 3.1 of the Guidelines). Usually, concluding an insurance policy is not a necessary condition for the granting of a consumer credit, but it results in a lower interest rate being offered or a higher total loan amount. This is linked to the better risk profile of a client

who takes out insurance. On the other hand, the insured client is obliged to pay the insurance fees. The total costs to the consumer associated with the consumer credit also include the insurance fee for the insurance policy, the conclusion of which was a condition for obtaining the consumer credit or for obtaining it on the terms offered (Article 2(g) of ACC 1).

All these aspects should also be reflected in the advertising of consumer credit with insurance. If taking out an insurance policy is a condition for obtaining consumer credit on the terms offered, the associated insurance fees should be included in the APR calculation (as an increase to it). However, this is only possible if the future insurance fees can already be quantified at this stage. In some cases, however, this is not possible. For example, when a consumer credit is provided as a special-purpose loan, with the condition that the purpose of the loan can be demonstrated at a later date, e.g. within 6 months of the loan being granted. Immediately after the client completes the purchase of the car, they will be obliged to take out not only compulsory liability insurance but also accident insurance, and to provide proof of all these facts to the creditor. The problem, however, is that at the time the credit was advertised, the amount of the insurance fees could not yet be known, as it depends on the value of the car, its age and the client's previous risk (claims) profile. Consequently, it was not possible to include this cost in the calculation of the APR, which is communicated in the advertisement for the consumer credit. It is this situation that is addressed by the provision of Article 3(2) of ACC 1, according to which, in such a case, the advertisement must also include information on the client's obligation to conclude an insurance policy.

The new legislation contained in ACC 2 (effective from 20 November 2026) sets out in greater detail the requirements for the advertising of consumer credit. It is explicitly stated that wording in advertising and marketing communications which may create false expectations among consumers regarding the availability of consumer credit or the associated costs, or regarding the total amount the consumer must pay, is prohibited (Article 5(1) of ACC 2). Any advertising or offer relating to consumer credit must contain a clear and prominent warning to the following or similar effect: 'Warning! Borrowing money costs money.' (Article 5(2) ACC 2). The content requirements for advertising or offers of consumer credit remain the same as under the previous legislation (cf. Article 5(3) ACC 2). However, where the manner in which the information is provided does not allow for its visual display in the advertisement, the price of the goods or services in the case of consumer credit in the form of deferred payment for such goods or services, as well as the total amount to be paid by the consumer and the amount of the instalments, shall not be stated. However, where this is visually possible, the consumer shall be provided with access to this information through manual intervention, e.g. by clicking on the relevant link (Article 5(5) of ACC 2). Under ACC 2, prohibited is advertising which (Article 5(6) of ACC 2):

- encourages the consumer to enter into a consumer credit agreement by claiming that this will improve their financial situation,
- states that outstanding consumer credit does not affect the assessment of an application for consumer credit,
- falsely suggests that a consumer credit agreement leads to an increase in financial resources, replaces savings or may improve the consumer's standard of living,
- emphasises the ease of meeting the conditions necessary to obtain a consumer credit,
- states that a discount on the price of goods or services is conditional upon the conclusion of a consumer credit agreement; or
- offers the option of deferring consumer loan repayments for a period of more than three months.

If a condition for obtaining a consumer credit on the terms offered is the conclusion of a contract for an ancillary service related to the consumer credit agreement, and if the costs associated with this contract for an ancillary service cannot be determined in advance, the

advertising shall state, in a clear and comprehensible manner, briefly and clearly, the obligation to conclude such an ancillary service contract (Article 5(7) of ACC 2).

It can be concluded that the new legal framework for the advertising of consumer credit arising from CCD II and, consequently, from ACC 2 is more precise than the previous framework, with greater emphasis placed on consumer information and the prevention of marketing communications highlighting certain features of consumer credit.

Conclusion

Both the advertiser and the advertisement distributor are responsible for ensuring that the advertising complies with the legal requirements. Generally speaking, the advertiser is responsible for ensuring that the content of the advertisement complies with specific requirements, whilst the advertisement distributor is responsible for ensuring that its content complies with general requirements.

The legal framework governing the advertising of consumer credits is quite complex. However, upon closer examination and detailed analysis, we can identify three levels of regulation under both EU law and the Slovak law:

1. General requirements for advertising
2. Special requirements for consumer protection in advertising
3. Special requirements for consumer protection in the advertising of consumer credit, with the specific regulatory requirements always taking precedence over the general ones.

It can be said that regulations governing consumer credit advertising are becoming stricter, bringing the issue of debt prevention and over-indebtedness to the forefront. Can we therefore expect, within the current regulatory framework, that the regulation of consumer credit advertising will reach the level of regulation of alcohol, tobacco or medicines? It appears so, as similar warning labels are already required in consumer credit advertising.

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CONSTITUTIONAL FRAMEWORKS FOR THE PROTECTION OF INDIGENOUS PEOPLES' RIGHTS: CANADA AND THE USA

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Abstract: The article compares the constitutional frameworks governing Indigenous peoples' rights in Canada and the United States. It applies doctrinal legal analysis and a comparative approach to constitutional provisions, case law, and academic literature. Canada explicitly recognizes Indigenous rights in section 35 of the Constitution Act, 1982, whereas the United States relies primarily on judicial interpretation, particularly the Marshall Trilogy. Canada provides stronger constitutional protection, while the United States offers broader opportunities for tribal self-government.
Keywords: Indigenous rights, Canada, USA, constitutional recognition
JEL: K38

Introduction

Although Canada and the United States have developed distinct constitutional frameworks governing Indigenous peoples, both countries share a common legacy of colonization, dispossession of Indigenous lands, and policies of forced assimilation. Over time, these approaches have gradually evolved towards the recognition of Indigenous rights and greater participation of Indigenous peoples in decisions affecting their communities.

The comparison of Canada and the United States is particularly relevant because both countries emerged from similar colonial experiences and continue to face comparable challenges relating to Indigenous self-determination, land rights, and reconciliation. At the same time, they have adopted markedly different constitutional and legislative approaches to addressing these issues.

This article contrasts the Canadian model of constitutionally entrenched Indigenous rights with the United States model of inherent tribal sovereignty as constrained by federal authority. The purpose of this article is not to provide an exhaustive analysis of Indigenous peoples' rights in North America. Rather, it compares the constitutional frameworks governing Indigenous peoples in Canada and the United States, highlighting similarities and differences in the constitutional recognition, protection, and exercise of Indigenous rights and self-government. The article adopts a combination of descriptive and analytical methods, doctrinal legal research, and a comparative legal approach.

While Canada historically relied on the Indian Act (1876) as the central legislative framework governing Indigenous affairs, United States Indian law is "a loosely related collection of past and present acts of Congress, treaties and agreements, executive orders, administrative rulings, and judicial opinions connected only by the fact that law in some haphazard form has been applied to American Indians over the course of several centuries." (Deloria & Wilkins, 1999, as cited in Vicaire, 2013, p. 611).

Canada considered Aboriginal peoples as subjects of the British Crown. Contrastingly, Indians in the United States were long considered neither subjects nor American citizens - they were citizens of their own tribe and not a part of the American body politic (Vicaire, 2013, p. 625).

1 Canada Constitution Act (1982)

Section 35 of the Constitution provides the basic constitutional framework for protecting the rights of aboriginal peoples of Canada. In subsection 1, it explicitly recognizes and affirms existing aboriginal and treaty rights (rights that currently exist by way of land claims agreements or that may be acquired in this way). It is legal protection for rights that already existed at the time of the adoption of the Constitution, including rights that arise from older or modern treaties between aboriginal peoples and the Crown or federal government (Department of Justice, 2026).

Only Indians, Inuit and Métis are explicitly designated as aboriginal peoples of Canada, and they may identify with more than one of these groups. This gives them a special status within the Canadian legal order.

This provision has constitutive significance, as it ensures that neither federal nor provincial legislation can unilaterally derogate from or limit these rights. Article 35 is further developed in its interpretation by the case law of the Supreme Court of Canada, which has given material substance to Article 35, particularly in matters of self-government, land use and traditional ways of life (e.g. Delgamuukw v. British Columbia, Haida Nation v. British Columbia) (Lothamer, 2021).

The Constitution Act does not explicitly address the rights of Aboriginal people to natural resources and their use in the context of preserving traditions. Subsection 4 enshrines gender equality. Subsection 35.1 ensures that before any constitutional amendment that could affect the rights of Aboriginal people (e.g. an amendment to Part 24 of Section 91 of the Constitution of 1867 or Section 25 of this Constitution Act) is made, a constitutional conference must be held with the participation of the federal Prime Minister and the Premiers of the provinces. Aboriginal representatives are invited to discuss the proposed amendment, thereby ensuring their consultation and participation in decision-making that affects their rights.

Section 25 complements section 35 by providing additional protection for the rights of Indigenous Peoples in the context of the general civil rights and freedoms guaranteed by the Constitution, ensuring that these rights cannot be limited or diminished by the application of the Canadian Charter of Rights and Freedoms (Part One of the Constitution of Canada, Government of Canada, 1982).

Among the most significant limitations of section 35 of the Constitution Act is that it does not guarantee full sovereignty to Indigenous Peoples in the sense of equivalent state sovereignty, as the Supreme Court of Canada has not yet formally recognized such sovereignty. The exercise of recognized inherent rights and Aboriginal title thus occurs exclusively within the framework of the Canadian constitutional and legal order. Another shortcoming is that the obligation to consult with the State often remains at a procedural level, without Indigenous Peoples having any real decision-making influence on matters that directly affect them. Furthermore, the exercise of these rights can be significantly limited by the economic interests of the state and private entities, as illustrated, for example, by controversial infrastructure construction projects such as Coastal GasLink (Lothamer, 2021).

Section 35 is broadly formulated and does not explicitly define the rights it protects. Their specific content and scope have therefore been progressively developed through the jurisprudence of the Supreme Court of Canada. Criticism of this provision also focuses on the term “existing rights”, which is not clearly defined in terms of the temporal point at which such rights must have existed. This issue was significantly clarified in *R v. Sparrow*, where the Supreme Court held that Section 35 protects only those Aboriginal rights that existed and had not been extinguished as of the coming into force of the Constitution Act, 1982. Rights that had been legally extinguished prior to that date are not revived by this constitutional provision (Vicaire, 2013).

2 The USA Constitutional Foundation of Indigenous Rights

Unlike Section 35 of the Canadian Constitution Act (1982), the Constitution of the United States does not contain any explicit recognition of Indigenous rights or the sovereignty of Native American tribes. These principles have instead been progressively developed primarily through judicial interpretation and federal legislation. The constitutional foundation of federal authority over Indigenous nations derives mainly from the so-called Indian Commerce Clause (Article I, Section 8, Clause 3) and the Treaty Clause (Article II, Section 2).

Article II, Section 2, Clause 2 of the U.S. Constitution empowers the President to make treaties, provided two-thirds of the Senate concurs. In the context of Indigenous peoples, this clause provided the constitutional basis for the federal government to negotiate hundreds of nation-to-nation treaties with Native American tribes. It remains legally significant despite the cessation of treaty-making in 1871, when Congress enacted a law prohibiting the federal government from making new treaties with American Indian tribes (Library of Congress, n.d.).

Article I, Section 8, Clause 3 grants Congress the power "to regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes." The Indian Commerce Clause has become the primary constitutional basis for federal authority over Indigenous tribes. In combination with the Supremacy Clause, the Supreme Court has interpreted it as granting Congress plenary power over tribes. This authority extends to a wide range of regulatory areas, including land, gambling, hunting and fishing, natural resource management, as well as the economic and political development of tribes (Strommer, 2015).

The interpretation of this clause by the Supreme Court through the so-called Marshall Trilogy established the foundations of the doctrine of tribal sovereignty, the trust relationship between the federal government and tribes, and the concept of Native American tribes as "domestic dependent nations".

The Marshall Trilogy consists of three landmark 19th-century Supreme Court decisions (*Johnson v. M'Intosh* 1823, *Cherokee Nation v. Georgia* 1831, and *Worcester v. Georgia*, 1832) under Chief Justice John Marshall that fundamentally shaped federal Indian law. Collectively, these cases defined the legal structure of U.S. tribal relations by establishing the doctrine of discovery, recognizing tribes as limited sovereign entities, and affirming the exclusive authority of the federal government over Indigenous affairs. As a result, the trilogy remains the cornerstone of the hierarchical relationship between tribal nations and federal power in the United States. Jurisdiction over matters concerning Indian territories is therefore the result of a complex interaction between federal, state, and tribal law.

Johnson v. M'Intosh famously adopted the doctrine of discovery as the foundation of land title in the United States. The Court held that Indigenous tribes did not hold full ownership of their lands. Instead, European colonial powers, and subsequently the United States, acquired ultimate title based on discovery. Tribes retained only a right of occupancy and use, which could be extinguished solely by the federal government through purchase or conquest (so-called "Indian title") (Fletcher, 2008).

In *Cherokee Nation v. Georgia* (1831), the Supreme Court held that Native American tribes could not be regarded as "foreign nations" under the U.S. Constitution. Instead, Chief Justice Marshall characterized them as "domestic dependent nations", recognizing that tribes retained certain attributes of sovereignty while remaining politically dependent on the United States. This doctrine established a guardian–ward relationship between the federal government and Indigenous tribes, whereby tribal self-government was acknowledged but remained subject to federal protection and authority (Fletcher, 2008).

As early as *Worcester v. Georgia* (1832), the Supreme Court recognized that Native American tribes constitute distinct political entities possessing attributes of sovereignty in relation to both their members and their territories. However, this sovereignty is not absolute, as it has been partially limited by their incorporation into the territory of the United States and

their acceptance of federal protection. Consequently, tribal sovereignty is of a limited and derivative nature and exists only to the extent that it has not been expressly restricted by Congress (Congressional Research Service, n.d.). Congress therefore has the authority to limit, modify, or even abolish tribal powers through legislation, while tribes retain all powers of self-government that have not been explicitly taken away. This tension represents the core of federal Indian law: tribal authority is inherent, yet simultaneously subject to federal supremacy (LegalClarity Team, 2026). The final case of the Marshall Trilogy established that state laws generally do not apply within tribal territories when they conflict with federal law or treaties. The Supreme Court recognized Native American tribes as distinct political communities possessing inherent sovereignty and affirmed that relations with tribes fall primarily under federal jurisdiction. Although later jurisprudence has narrowed this principle, *Worcester* remains a foundational case for the recognition of tribal sovereignty and the federal government's exclusive authority in Indigenous affairs (Fletcher, 2008).

Conclusion

The comparison of Canada and the United States is particularly relevant because both countries emerged from similar colonial experiences and continue to face comparable challenges relating to Indigenous self-determination, land rights, and reconciliation. Despite these similarities, the two states have adopted fundamentally different constitutional approaches to Indigenous peoples.

Canada expressly recognizes and protects Indigenous and treaty rights through section 35 of the Constitution Act, 1982, while the constitutional status of Indigenous peoples in the United States has largely developed through judicial interpretation, particularly through the Marshall Trilogy. Consequently, the Canadian model places greater emphasis on constitutional recognition and protection of Indigenous rights, whereas the United States model is built upon the concept of inherent tribal sovereignty and the recognition of tribes as domestic dependent nations possessing powers of self-government.

At the same time, constitutional recognition does not automatically guarantee the effective realization of Indigenous rights in practice. The Canadian experience demonstrates that important questions concerning self-government, land rights, and consultation continue to depend on judicial interpretation and political negotiation. Conversely, while federally recognized tribes in the United States exercise broader powers of self-government and jurisdiction, tribal authority remains subject to congressional plenary power and federal supremacy.

Recent scholarship reflects this distinction. Choquette (2025) argues that Indigenous autonomy remains strongest in the United States and intermediate in Canada, while noting that the constitutionally recognized right of Indigenous peoples in Canada to make, apply, and interpret law is not always consistently implemented in practice. Similarly, Vicaire (2013) observes that although Canada provides stronger constitutional protection of Indigenous rights, the United States has historically developed more robust institutions of tribal self-government. Federally recognized tribes maintain their own governments, constitutions, judicial systems, and varying degrees of jurisdictional authority. In contrast, Canada has historically treated Indigenous peoples primarily as subjects of the Crown rather than as separate political nations. Consequently, even the constitutional recognition afforded by Section 35 of the *Constitution Act, 1982* has not produced self-government institutions comparable in scope to those that have developed in the United States under a framework grounded in the inherent sovereignty of Indigenous nations.

While the constitutional entrenchment of Indigenous rights does not necessarily translate into their full realization in practice, it offers greater protection against unilateral restrictions by federal authorities than the U.S. framework, where the scope of tribal rights

remains subject to congressional authority. Nevertheless, constitutional recognition alone is insufficient to guarantee the effective exercise of Indigenous rights in reality.

The comparison therefore suggests that neither model can be regarded as unequivocally superior. Canada offers a stronger constitutional framework for the protection of Indigenous rights, while the United States continues to provide broader opportunities for the exercise of tribal self-government. The principal difference between the two systems lies not in the existence of Indigenous rights themselves, but in the constitutional mechanisms through which those rights are recognized, protected, and exercised.

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THE IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE IN DIPLOMATIC PRACTICE

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Abstract: This paper analyzes the implementation of artificial intelligence (AI) in diplomatic practice and its growing significance in contemporary international relations. The authors aim to highlight the impact of AI on diplomatic activities and identify opportunities for its use in the areas of information processing, diplomatic communication, public diplomacy, and consular services. Through a SWOT analysis, the strengths and weaknesses of AI implementation in diplomacy are defined, as well as the opportunities and threats associated with its development. The results highlight AI's potential to increase the efficiency, accuracy, and speed of diplomatic processes, while also drawing attention to risks in the areas of information security, data protection, and ethics.
Keywords: artificial intelligence, digital diplomacy, international relations
JEL: F50, O33, L86

Introduction

In today's digital age, marked by the constant development of new technologies, international relations and their actors are undergoing a process of transformation. The comparative advantages of states, international organizations, transnational corporations (TNCs), small and medium-sized enterprises, and even individuals will increasingly lie in the application of know-how, the rapid processing of large amounts of data, and negotiation skills. Artificial intelligence is one of the means of gaining these advantages in the global market.

The history of artificial intelligence research as a science began in 1956 at Dartmouth College in Hanover, New Hampshire, USA. In that research project, John McCarthy, Marvin L. Minsky, Nathaniel Rochester, and Claude E. Shannon formulated the hypothesis that "every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it. An attempt will be made to find how to make machines use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves (McCarthy et al., 2006)." These scientists' prediction has come true-artificial intelligence is becoming increasingly intelligent, boosting work productivity and accelerating learning progress. Many scientists and IT companies (Google, Intel, IBM, Apple, Baidu, Microsoft, and others) have spent years developing these technologies, increasing computer memory and performance to achieve these goals, to the point where artificial intelligence has now surpassed humans in certain areas.[1]

The outlook for AI implementation is also very optimistic. According to research by American scientists, by 2024 artificial intelligence will be better at translating text than humans; by 2026, it will be able to write essays on given topics better than high school students; by 2027, it will completely replace human truck drivers; by 2049, it will easily write bestsellers, and by 2053, it will perform surgeries better than a surgeon. Asian experts expect this technological progress to occur even sooner (Grace et al., 2018).

[1] In 1997, then-world chess champion Garry Kasparov lost to IBM's Deep Blue, and in 2017, Google DeepMind's AlphaGo defeated the world's top Go player, Ke Jie.

By the term artificial intelligence, we mean software systems and algorithms whose primary task is to solve intellectual problems as a rational human would. According to John McCarthy (n.a.), an American scientist and IT specialist, artificial intelligence is "the science and engineering of making intelligent machines, especially intelligent computer programs." Furthermore, the author emphasizes that the methods applied in AI should not be limited by the biological ceiling of human intelligence.

In their paper, authors Joost N. Kok, Egbert J. W. Boers, Walter A. Kosters, Peter van der Putten, and Mannes Poel (2009) highlighted the constantly evolving definition of AI and the many discussions within academic circles regarding this field of research. According to the authors, AI consists of computer programs that should "think like humans, act like humans, think rationally, and act rationally."

Stephen Ibaraki (2018), an industry analyst, writer, and consultant in the IT industry, characterizes artificial intelligence as the "new electricity" in the era of the current industrial revolution. It is a driving force for economic growth and success.

Multinational organizations and institutions also recognize the importance of AI in the global world. The European Commission's High-Level Expert Group on Artificial Intelligence synthesized existing knowledge and defined AI as "systems that display intelligent behavior by analyzing their environment and taking actions-with some degree of autonomy-to achieve specific goals." Researchers have divided AI-based systems into two types: "software-based, acting in the virtual world (e.g., voice assistants, image analysis software, search engines, speech and face recognition systems) and AI embedded in hardware devices (e.g., advanced robots, autonomous cars, drones, or Internet of Things applications) (European Commission, 2018)."

OECD experts highlight the social aspect of AI. According to them, AI is: "a general-purpose technology that has the potential to improve the welfare and well-being of people, to contribute to positive and sustainable global economic activity, to increase innovation and productivity, and to help address key global challenges (OECD, 2019)."

What all experts on the subject agree on is that AI has great potential to improve the quality of human life in all its aspects. AI can contribute to reducing or completely eliminating hunger and poverty worldwide, and help address issues related to climate change, environmental sustainability, and biodiversity. The application of AI is effective in agriculture, healthcare, education, finance, security, culture, and many other fields.

In this paper, we focus on research into the impact of AI specifically on the field of diplomacy. Our goal is to analyze the functions of AI in diplomatic activities. Using a SWOT analysis, we will identify the strengths and weaknesses of implementing AI in diplomacy and the opportunities and threats that may be associated with it.

1 Literature Review and Methodology

A group of authors examines the issue of competition among nations in the field of artificial intelligence in their paper "Harnessing Artificial Intelligence (AI) to Increase Well-being for All: The Case for a New Technology Diplomacy." Ferijóo et al. (2020) describe three stages of the process of international competition in the AI sphere: techno-nationalism, protectionism, and fragmentation. According to the authors, the world's leading nations in this field are currently in the protectionism stage, and cooperation among them is at a low or nonexistent level. Cooperation occurs primarily among researchers at universities and research centers.

This trend of parallel technological development in the field of AI poses significant risks to the global community. For this reason, authors Butcher and Beridze (2019) examine the process of AI regulation at the global level in greater detail and also establish a framework for the beneficial development of AI technology while mitigating risks.

In his publication, Andrew Moore (2023) draws attention to the revolutionary impact of artificial intelligence in the field of diplomacy. He highlights the practical application of AI in diplomatic practice, particularly-in the context of the current reality of the Russian Federation's military invasion of Ukraine-the role of AI in the negotiation process.

The impact of AI on mediation as a means of peacemaking, along with the associated benefits, risks, and challenges, is analyzed in the publication *Mediation and Artificial Intelligence: Notes on the Future of International Conflict Resolution* by Katharina Höne (2019). The author identifies three areas in which AI can provide significant support to mediators: "(a) supporting knowledge management and background research, (b) generating a good understanding of the conflict and the parties to the conflict, and (c) creating greater inclusivity in mediation processes."

In his article "Diplomacy in the Age of Artificial Intelligence," Bjola (2019) analyzes the potential for integrating artificial intelligence into a country's foreign policy, particularly the professional activities of the Ministry of Foreign Affairs and embassies. The author concludes that "structured decisions, descriptive analytics, and procedural knowledge are the most likely entry points for AI adoption in the diplomatic field; they apply well to consular services and international negotiations."

2 AI as a Tool for Diplomatic Activities

Diplomacy is an instrument for implementing a state's foreign policy, based on a set of norms and customs in international relations. It is the art of conducting negotiations, averting or resolving international conflicts, seeking compromises, and strengthening international cooperation (Tóth et al., 2008). Although diplomacy is one of the oldest disciplines in the world, with origins dating back to pre-antique times, it is subject to the pressures of innovation and global trends.

Just as new manufacturing technologies brought political and economic power to states during previous industrial revolutions, artificial intelligence is now changing the position of states on the international stage. We can already observe competition among countries in this area today (Bremmer & Chairman, 2018).

According to the 2025 Government AI Readiness Index, which assesses governments' readiness to implement artificial intelligence in the delivery of public services to their citizens, the leaders were the United States, Singapore, the United Kingdom, European Union countries (particularly Finland, France, and the Netherlands), as well as Canada, South Korea, Australia, and Japan (Oxford Insights, 2025). According to the Global AI Index, China is also among these countries, ranking second behind the US in 2023. This index analyzes countries based on three pillars: investment, innovation, and implementation of AI (White & Cesareo, 2024). We can assume that those countries that achieve significant success in these technologies will dictate the terms of the development of international relations and geopolitical cooperation in the future.

Alongside the digitization of international relations, a digital transformation is inevitably taking place in the field of diplomacy as well. Artificial intelligence has great potential to become another useful tool in the arsenal of diplomatic and consular missions.

We distinguish three types of AI that can be applied to the needs of the diplomatic service: assisted intelligence, augmented intelligence, and autonomous intelligence. Assisted intelligence is the most common type of AI currently in use and serves a supportive role in human work. Augmented intelligence is still in the development stage, and its function is to enable humans to perform tasks they could not accomplish without its support. The third type-autonomous intelligence-is a tool of the future designed to perform certain human functions autonomously, without human intervention (Detemple et al., 2021). Ultimately, the significance of AI lies in streamlining and expanding human potential in the performance of their activities.

Before analyzing the role of AI in diplomatic practice, it is appropriate to begin with an analysis of the main functions of diplomacy. According to Article 3 of the 1961 Vienna Convention on Diplomatic Relations, the role of a diplomatic mission includes, among other things, conducting negotiations with the government of the receiving state, gathering current information and reporting to the government of the sending state, engaging in public diplomacy, and providing consular services. AI has great potential in all of these areas.

The negotiation process is undoubtedly a sensitive area that requires diplomats and mediators to possess strong communication skills, empathy, the ability to listen, ask the right questions, and persuade their counterparts. A diplomat's ability to improvise and create a trusting atmosphere during negotiations is also a hallmark of professionalism. The factors listed for achieving success in negotiations point to a fundamentally human approach, which is why negotiation is one of the least digitized activities of a diplomat. On the other hand, assisted intelligence can play an irreplaceable role in the preparatory phase.

The collection and distribution of information is one of the most important functions of diplomacy. Due to the unprecedented volume of data and the multitude of sources from which it is obtained, the demands on diplomatic intelligence are very high. Diplomatic intelligence should be deeply analytical in nature and based on an analysis of all factors that influence it. A diplomat must verify the information obtained from multiple sources-official and reliable, of course, and sometimes internal.

In today's reality, time plays a decisive role. If information is already outdated by the time it is reported, the decision made by headquarters may be delayed and erroneous. Likewise, the necessity to react quickly in crisis situations can prompt a diplomat making a decision to subconsciously or even consciously reduce the scope of the information, rely more on cognitive simplification of the problem, and seek a satisfactory-rather than an optimal-solution. Artificial intelligence is precisely the tool that can resolve these complications. With the help of AI, a diplomat can quickly, thoroughly, and to a large extent objectively analyze the vast amount of information necessary for strategic foreign policy decisions of the sending state.

In the age of social media, public opinion analysis can provide valuable insights in the field of diplomacy as well. By researching social media, a diplomat can gain an understanding of key topics in the social debates of the country where they are stationed, assess public attitudes toward those topics, identify influential and opinion-shaping figures, and formulate recommendations based on the information gathered. The analysis of public opinion using social media takes on particular importance during periods of crisis, unrest, and destabilization (Jacobson, Höne & Kurbalija, 2018). In this sphere, AI can also serve as a suitable tool for analyzing and filtering large volumes of comments and posts by social media users.

Social media can also be beneficial in the field of public diplomacy in two ways. On the one hand, diplomats can enhance the host country's citizens' awareness of the country they represent by providing information about its culture, nature, sports, tourism, and economic and political situation. On the other hand, by analyzing social media, diplomats can gain a better understanding of how their own country is perceived abroad, its image, and the factors that shape it. Based on the public opinion data obtained, diplomats can better adapt the mission's agenda and the methods of its implementation (Jacobson, Höne & Kurbalija, 2018).

Written diplomacy, or diplomatic correspondence, occupies a prominent place in diplomatic activity. Almost any diplomatic activity results in the drafting of official documents: ranging from treaties and conventions, diplomatic notes, and other communications to personal and official letters. Diplomats spend nearly 80–90% of their time on this activity. High standards are also placed on diplomatic correspondence, as even the smallest errors and typos in sent documents cannot be corrected and may cause serious problems (Popov, 2025). With the help of artificial intelligence, it is possible to analyze large volumes of text, identify patterns, prevent errors, and ultimately improve the quality of diplomatic correspondence.

Jacobson, Höne, and Kurbalija (2018) list additional potential applications of AI in written diplomacy:

"1) Identify word frequency and make inferences about relevance.
2) Find key words and identify their association with other words and phrases.
3) Identify changes in the use of key terms over time.
4) Measure the relevance of a specific issue in the discussion and how this changes over time."

The development of international relations and the number of actors involved have led to the globalization and interconnectedness of states. Global economic issues such as maintaining world peace, disarmament, poverty, migration, climate change, and others are challenges facing all of humanity, which states can resolve only through cooperation. Multilateral diplomacy is an effective tool for addressing these challenges. Within the framework of international organizations, conferences, and summits where negotiations, consultations, and similar activities take place, representatives of individual states have the necessary means to reach consensus (Tóth et al., 2008).

Within the framework of multilateral diplomacy, state representatives express their country's position on a specific issue through voting, statements, or support for an individual country or group of states. These "diplomatic traces" can provide important information for AI analysis. Based on the results obtained, country representatives can develop a better strategy in the process of negotiation, alliance-building, and predicting the behavior of their partners or opponents.

A significant, and perhaps the greatest, contribution of artificial intelligence is anticipated in consular services. Compared to other branches of a country's foreign service, consular offices come into daily contact with their own citizens and those of the host country, often in crisis situations. Automation in the provision of consular services through AI has the potential to improve and accelerate the delivery of assistance to clients of consular offices. Of course, AI cannot replace personal contact with a consular official, but the client's initial contact can be handled by chatbots. This tool can relieve consular staff of routine tasks: providing necessary information on frequently asked questions without time constraints, submitting visa applications, or completing registration on the consulate's website.

To provide a more comprehensive picture of the impact of AI on diplomacy, we used the SWOT analysis method. The results of this analysis are presented in Table 1.

Table 1: SWOT Analysis of AI Implementation in the Diplomatic Service

Strenghts	Weaknesses
• AI increases the transparency and efficiency of administrative processes in diplomacy • AI improves the quality of the information obtained • AI increases the speed and accuracy of the information obtained • AI analyzes large volumes of information, based on which it automatically improves itself • AI reduces the costs of diplomatic activities through process optimization • AI limits the subjectivity and error rate of diplomats in diplomatic activities	• The opacity of the algorithms underlying AI operations breeds mistrust among users (diplomats) • High costs associated with the initial phase of AI development and its implementation in diplomatic activities • A shortage of qualified personnel for the development and implementation of AI in diplomacy

Opportunities	Threats
• AI enables automated language processing. This tool can facilitate negotiations by reducing the time and effort required for translation or interpretation • With the help of AI, a diplomat or mediator can gather and analyze public opinion in real time, which increases their awareness during the negotiation process • AI can enhance the security of communication channels in diplomatic activities	• AI can significantly alter the balance of power in international relations. The threat of digital and information warfare is growing, creating new challenges for international security • The implementation of AI poses threats to information security and the protection of personal data in diplomatic activities • AI algorithms can distort the information obtained (disinformation), leading to incorrect decisions in diplomatic activities • The risk of hacking into diplomatic systems is increasing. The use of obtained information as a technological weapon • The question of responsibility for the consequences of AI-based diplomatic activities arises • The question of the ethics and legitimacy of AI implementation in diplomatic activities arises, particularly regarding the processing of personal data

Source: own processing

Conclusion

There is a strong connection between technology and international relations. Artificial intelligence influences the environment in which diplomacy takes place (Höne, 2019). Nevertheless, experts do not anticipate a major revolution with the implementation of AI in diplomacy. New technologies have the potential to improve the quality of information, its availability, and the speed at which it can be obtained. In the near future, artificial intelligence will serve as a supportive tool that complements a diplomat's skills and experience.

On the other hand, the implementation of AI in diplomatic activities increases risks, particularly in the areas of information security and personal data protection. There is a threat of a "gray zone" in the use of AI, as there are currently no regulations governing this area under international law.

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SLOVAKIA'S POLITICAL AND ECONOMIC CHALLENGES IN 2026

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Abstract: The goal of this paper is to describe and try to analyze the recent challenges and problems of the current Slovak government. In 2026, Slovakia's political expectations center on ongoing fiscal consolidation efforts, significant domestic political polarization as the year is a pre-election year for the 2027 general elections, and a focus on maintaining stability within the EU and NATO despite internal debates. The key political and economic dynamics are that the year of 2026 is considered a pre-election year, what will likely exacerbate the existing polarization between the governing and a (united) opposition, which has been organizing mass protests against government policies. Besides, local and regional elections are scheduled for the autumn of 2026. Regarding the fiscal consolidation and austerity, the government is implementing a major fiscal consolidation package to reduce one of the highest budget deficits in the European Union. These measures, which include higher taxes, increased social contributions, a public sector wage freeze, and fewer public holidays, are a major source of public discontent and opposition protests.
Keywords: Slovakia, political parties, economy, coalition, government
JEL: N40

Introduction

In 2026, Slovakia's political expectations center on ongoing fiscal consolidation efforts, significant domestic political polarization as the year is a pre-election year for the 2027 general elections, and a focus on maintaining stability within the EU and NATO despite internal debates. The key political and economic dynamics are the following:

2026 is considered a pre-election year, meaning political maneuvering and campaigning for the 2027 parliamentary elections will intensify. This will likely exacerbate the existing polarization between the governing coalition (led by Prime Minister Robert Fico's Smer-SD party) and a united opposition that has been organizing mass protests against government policies. Besides, local and regional elections are scheduled for the autumn of 2026. Political parties are forming pragmatic local coalitions that will serve as a significant benchmark of public sentiment towards the national government's performance (Johecová, 2025).

Regarding the fiscal consolidation and austerity, the government is implementing a major fiscal consolidation package to reduce one of the highest budget deficits in the EU. These measures, which include higher taxes, increased social contributions, a public sector wage freeze, and fewer public holidays, are a major source of public discontent and opposition protests (Cushman & Wakefield, 2026). The government aims to cut the deficit to 4.1% of GDP by year-end. Slovakia's economy is projected to experience subdued GDP growth of around 1.0-1.3% in 2026, with persistent inflation concerns driven by the phasing out of energy subsidies. The country, which is heavily reliant on the automotive industry, remains vulnerable to global trade uncertainties and potential tariffs, which could put industrial jobs at risk.

A key debate is the government's approach to EU and NATO membership. While the highest constitutional officials signed a memorandum reaffirming "indisputable membership" in these organizations, some rhetoric from government-aligned figures has raised the prospect of a potential future outside them, though any such decision would likely require a referendum.

The official budget includes a commitment to spend 2% of GDP on defense, in line with NATO expectations (Dlhopolec, 2026).

There are also ongoing concerns from critics, both domestically and internationally, that the current government is attempting to weaken democratic institutions and silence opposition, for instance, by proposing to raise the parliamentary entry threshold for political parties. The political environment is marked by high public distrust and a widely shared expectation across political segments that living standards will not improve in the near future.

1 Slovak political challenge

In 2026, Slovakia enters a pivotal pre-election year as political actors prepare for the 2027 parliamentary elections. The year is marked by heightened polarization, local elections, and potential snap election speculation. Local and Regional Elections: Scheduled for autumn 2026, these elections for municipal and regional self-government bodies will serve as a critical test of public sentiment. Although Prime Minister Robert Fico proposed postponing them to 2027 to align with national elections, the idea was rejected, ensuring they remain a separate benchmark for the governing coalition's performance.

The debate on extending the current term of local governments is definitively closed in October 2025. This decision emerged from a discussion held between House Chair Richard Raši (Hlas–SD) and representatives of all municipalities and regions in Slovakia. They unanimously agreed that any extension of their current term would violate constitutional principles and existing legal standards. There was a clear, united, and principled stance from all three associations, who categorically rejected the proposal to postpone the elections planned for 2026 and according to Richard Raši we should fully respect their reasoning that mayors and regional governors were elected for four years, and any retroactive change to these rules would breach constitutional principles and democratic standards. He discussed the issue with the heads of the Slovak Association of Towns and Municipalities (ZMOS), the Association of Self-Governing Regions of Slovakia (SK8), and the Union of Slovak Cities (UMS). Also present was Deputy Interior Minister Michal Kaliňák, who appreciated the clear stance of the local government leaders and value their unity of opinion. It shows that where there is general consensus, the arguments are strongest. The rules must be set before the game starts. That includes the length of the local term. This is about respecting the rules and ensuring a fair electoral process (Fabok, 2026).

It means that the debate on the upcoming municipal elections is now definitively closed. Richard Raši declared that the election date will be announced in due time at the end of October 2026. This clear position also opens the door to proper political consultations about the future, conducted in a way that respects legal certainty and fairness. In other words, any change would apply only to the next term. He also announced that, with the strong mandate from local government representatives, communication with political partners will begin, aiming to reach consensus on a constitutional solution with broad and lasting support.

The idea to postpone the municipal and regional elections by one year was introduced in October by Prime Minister Robert Fico during a congress of Smer-SD. He proposed moving the elections to 2027, after the parliamentary elections, arguing that local elections should also reflect the outcomes of the general elections. Hlas–SD supports the idea of extending local terms to five years, but the party insists that any such change should apply only to the next electoral cycle.

Regarding the political situation in 2026, it looks that this year will bring more polarization. The divide between the Smer-SD-led governing coalition and the opposition is expected to widen, fueled by ongoing mass protests against government reforms and policies. The opposition, led by Progressive Slovakia (PS), continues to mobilize urban voters, while the coalition focuses on consolidating its base through nationalist and anti-liberal rhetoric.

There were also indications that Prime Minister Fico might consider calling early parliamentary elections in the first half of 2026 to capitalize on current polling leads and preempt further coalition instability or economic shifts, but this idea was cancelled sooner than expected (Balogová, 2026).

The political divide in Slovakia between the Smer-SD-led governing coalition and the opposition, primarily Progressive Slovakia (PS), has continued to widen, fueled by ongoing mass protests against government reforms and policies especially at the beginning of 2026. The main source of the protests (December 2025/January 2026) is the government's push for extensive amendments to the criminal code and the dismantling of the whistleblower protection agency. The opposition and critics argue these changes weaken the rule of law, benefit criminal groups, and mirror actions in Hungary under Viktor Orbán (Petriczko et al., 2026).

Another problem for the opposition parties is a foreign policy shift. The PM Fico government's pro-Russia stance, including ending military aid to Ukraine, campaigning against EU sanctions on Russia, and Fico's several visits to Moscow, has prompted significant public anger and protests under the slogan "Slovakia is Europe". The opposition accuses Smer-SD of shifting Slovakia's foreign policy orientation and risking isolation within the EU.

Of course, an important issue is a fiscal consolidation plan, what is a substantial budget deficit cutting plan for 2026, which emphasizes raising taxes and cutting public sector jobs and benefits, has also provoked anger, with critics claiming it disproportionately affects ordinary citizens while sparing government-linked oligarchs.

Another problem between political parties will be the ideological divide. The political landscape is characterized by a "tug-of-war between nationalism and Europeanism". The coalition under PM Robert Fico consolidates its base using nationalist and anti-liberal rhetoric, while the opposition, led by the pro-European PS party, mobilizes urban, progressive voters around democratic values and EU alignment.

A crucial moment for the coalition parties is a government stability in 2026. The ruling coalition has faced internal instability and lost its parliamentary majority briefly in early 2025 due to rebel MPs, but PM Fico managed to restore a working majority through cabinet reshuffles and political maneuvering. The opposition is keen to exploit any signs of government fragility to push for early elections. The government has also moved to revamp the public broadcaster and proposed constitutional changes to assert the primacy of national law over some EU laws, moves that have drawn scrutiny from the European Commission and further criticism from the opposition. The situation remains volatile, with ongoing demonstrations and a clear polarization of the country's political forces.

In 2026, the government of Prime Minister Robert Fico continues to face intense domestic and international opposition over reforms that critics argue dismantle Slovakia's anti-corruption architecture and weaken the rule of law. We can expect an escalation of tensions between the governmental and opposition political parties due to recent institutional changes and legal battles. The most significant topics are regarding the abolishment of the Special Prosecutor's Office. This office, which handled high-level corruption and organized crime cases for nearly two decades, was officially dissolved on March 20, 2024. Its functions were transferred to regional prosecutor's offices. Another issue is from December 2025, when the Constitutional Court of Slovakia suspended a law that would have abolished the independent Office for the Protection of Whistleblowers. The law, which aimed to replace the office with a new government-controlled body by January 1, 2026, is currently under review for its constitutionality.

We cannot forget the Penal Code Reforms, what is a new criminal code that entered into force in early 2026 has been challenged by General Prosecutor Maroš Žilinka. For example, it includes reduced sentences for financial crimes and corruption and restricted use of "repentant witnesses" (cooperating suspects), which has historically been a critical tool for prosecuting

organized crime or new provisions criminalizing public questioning of the post-WWII Beneš Decrees.

The Beneš Decrees could be another problem for Slovakia. Slovak-Hungarian bilateral relations are experiencing a significant geopolitical shift and renewed friction following the historic April 2026 Hungarian elections, which ended Viktor Orbán's 16-year rule. The rise of Hungary's new Prime Minister, Péter Magyar, and his center-right Tisza party has dismantled the long-standing "illiberal alliance" between Budapest and Slovak Prime Minister Robert Fico. While both nations are attempting to maintain pragmatic cooperation, old historical rifts and divergent foreign policy paths have quickly resurfaced. Prime Minister Robert Fico, who openly endorsed Viktor Orbán prior to the vote, lost his primary partner for countering European Union mainstream policies and rule-of-law sanctions. Under Péter Magyar, Hungary is pivoting toward a constructive partnership with the EU and NATO, leaving Fico's government more isolated in Central Europe regarding its Russia-leaning policies and skepticism over Ukraine (Hajčáková, 2026). Long-dormant diplomatic friction ignited immediately when Péter Magyar protested Slovak legal frameworks that reinforce post-WWII retribution. The different position of both sides is clear. Pm Robert Fico explicitly stated that future PM Péter Magyar's priorities focus heavily on the Beneš Decrees, which historically stripped ethnic Hungarians of citizenship and property, an area where Bratislava and Budapest hold fundamentally opposing views. Slovak President Peter Pellegrini has stepped in to de-escalate tensions, publicly calling for pragmatic and technical discussions to resolve minority rights disputes and prevent border-town polarization (Faludy, 2026).

Besides, Slovakia is under increased scrutiny for potential misuse of European Union funds and threats to democratic values. Also, the Council of Europe's anti-corruption body issued recommendations in August 2025, urging Slovakia to limit fast-track legislation and safeguard judicial independence, with a reporting deadline set for December 31, 2026. A negative information is also Slovakia's rule of law ranking. In late 2025, monitors identified Hungary and Slovakia as having the most significant rule-of-law declines within the European Union.

2 Challenges of Slovak economy

Only days Slovakia's economy is set to remain sluggish, with growth below 1 percent of GDP expected to persist into next year, according to the National Bank of Slovakia (NBS). The weak outlook is already squeezing household finances, while government efforts to stabilize public finances are delivering only limited results (NBS, 2026).

The central bank governor, Peter Kažimír, has warned that 2025 has been and 2026 will be a difficult year not only for the state but for families too. Real household incomes are falling under the weight of fiscal consolidation, forcing consumers to cut spending – including on basic items such as food – and to run down savings simply to maintain living standards.

A recovery in economic growth is being held back by the global economic environment, particularly Germany's slowdown, which has a strong impact on Slovakia. Fiscal consolidation is also weighing on the economy. While its aim is to reduce the budget deficit, the NBS admits that even a third round of measures will bring only modest improvements.

The deficit is forecast to fall slightly to 4.5 percent of GDP in 2026, but without further action it would rise again, pushing public debt to unsustainable levels. Slovakia's public debt is expected to exceed 60 percent of GDP this year and continue climbing towards 66 percent by 2028 – a risky trajectory for a small, open economy.

There is a consensus that smaller countries with open economies have a lower threshold than large economies. In our conditions, a debt level of 60 percent of GDP is considered a borderline value. The NBS says one-off measures are insufficient and that additional

consolidation of at least 0.5 percent of GDP a year may be needed well beyond 2028, meaning austerity is far from over.

At the same time, higher taxes are failing to deliver their full potential. Although VAT rates have been increased, tax collection efficiency has weakened, reducing the expected gains from both economic growth and consolidation. This year the state is set to collect almost €500 million less in tax revenue from higher VAT and economic growth than forecast (NBS, 2026).

Part of the problem lies in the government's own consolidation measures, which have made the VAT system more complex and expanded exemptions, creating greater scope for tax evasion. Tax collection efficiency in Slovakia improved steadily from 2012, peaked in 2023 and has since declined. According to the NBS, Slovakia could have collected similar revenues this year with a VAT rate around 1 percentage point lower, had collection not deteriorated.

Rising spending is compounding the problem. Despite record budget revenues, expenditure is growing even faster, driven by measures such as energy subsidies and 13th pensions. Finance Ministry data show that state revenues rose by €1.56 billion year on year by November 2025, but spending increased by €2.8 billion, worsening the budget balance by €1.24 billion (Beracka, 2026).

Some relief may come in 2027, when parliamentary elections are due and the central bank expects a pause in fiscal consolidation, and in 2028, when economic growth is forecast to accelerate towards 2.5 percent. That rebound is expected to be supported by a recovery among key trading partners and the launch of Volvo car production in eastern Slovakia. The central bank cautions, however, that any additional consolidation measures after the 2027 election could again dampen growth. However, instead, the future consolidation should focus on simplifying the tax system and reducing exemptions. The government has partly responded by extending mandatory cash-register reporting to all sellers.

The number of people in work is expected to fall by 20,000 by the end of 2027, driven by adverse demographics, fiscal consolidation and weak economic growth. Employment fell by 0.1 percent quarter on quarter in the third quarter of 2025, driven mainly by declines in industry, trade and services. A mismatch between labor supply and demand persists, with a strong regional dimension. Several regions have recently experienced mass layoffs, contributing to a rise in unemployment. By contrast, firms in western Slovakia continue to face shortages of skilled workers. Labor mobility within the country has yet to improve. Inflows of foreign workers have increased in recent months. The number of economically inactive people is rising, reflecting not only a higher number of pensioners but also more students and people providing care for household members. Short-term survey indicators provide mixed signals: firms' employment expectations remained slightly positive in the third quarter and early fourth quarter of 2025, while household expectations shifted towards higher unemployment.

However, according to the Ministry of Finance of Slovak Republic, the Slovak economy will accelerate slightly in 2026, even as the external environment remains uncertain. In 2025, year-on-year economic growth slows to 0.8%, primarily due to the introduction of U.S. tariffs and weaker growth among foreign partners. Next year, a slight recovery in external demand will materialize, supported by drawing on investments from RRF. Although domestic demand will lag behind, GDP growth should reach 1.3%. A further pickup in growth is also constrained by labor-market conditions, which will hit the limits of available domestic labor, only partially offset by inflows of foreign workers. Inflation is expected to temporarily rise above 4%, but the impact on consumers will be mitigated by government energy support schemes (European Commission, 2026).

Despite the slowdown in expected economic performance and other geopolitical challenges, the government has prepared another extensive consolidation package with the aim of reducing the deficit close to 4% of GDP. The real-economy shock, driven mainly by U.S. tariffs and lower external demand, has already translated into revenue shortfalls this year.

Together with other external factors – most notably rising defense and interest expenditures – the effects of consolidation measures adopted so far have not fully demonstrate this year. In line with the objective of gradually reducing the deficit, the government has prepared additional consolidation measures. This simultaneously creates financing space for priorities, particularly in education and healthcare. By presenting the consolidation measures, the government is also responding to the requirements of the Excessive Deficit Procedure to set out measures ensuring the compliance with the expenditure path and a reduction in the budget deficit. The consolidation measures are not only a necessary step to maintain confidence in financial markets, but also to secure sufficient room to cope with future crises and challenges such as the ageing of Slovakia's population.

Next year's consolidation will take place on both the revenue and expenditure sides of the budget. The largest volume adjustments on the revenue side concern an increase in the health insurance contribution for employees, the elimination of contribution holidays, and higher contributions for the self-employed. Revenues will also be supported by increasing the progressivity of taxation for higher-income individuals. In line with international recommendations, negative externalities will also be taxed – such as higher taxation of gambling and royalties from the extraction of primary raw materials. The government is continuing to implement measures to combat tax evasion and limit tax optimization. Economic activity will also be supported by abolishing three public holidays and partially lifting the ban on retail sales. Savings on the expenditure side include reducing the wage bill – most notably by freezing payroll in the public administration – and cutting operating expenditures at ministries, government offices, and local governments. Additional savings will come from changes to social transfers, such as suspending the indexation of 13th-month pensions, shortening the duration of unemployment benefit payments, and tightening the conditions for the payment of sickness benefits. In subsequent years, the government continues to plan to reduce the deficit to 3% of GDP by 2028 and to exit the Excessive Deficit Procedure. The plan to continue consolidating the public finances in 2027 and 2028 should gradually reduce the deficit to around 3% of GDP, which would stabilize the currently rising gross debt at around 64% of GDP. This strategy will require additional measures amounting to 1.5% of GDP in 2027.

Conclusion

As of early 2026, Slovakia faces a complex landscape defined by sluggish economic growth, high fiscal consolidation pressures, and intense political polarization as the country approaches the 2027 parliamentary elections. Key issues include potential US tariffs impacting the vital automotive sector, high energy costs, and the need to effectively utilize EU recovery funds before the August 2026 deadline.

Economic sentiment among investors has fallen to 2020 levels, with roughly 40% of surveyed companies stating they would not invest in Slovakia today. GDP growth is expected to remain slow (around 1.3%), with some forecasts predicting it to be the lowest among the V4 countries and Austria. The government is implementing a significant consolidation package to bring the deficit closer to 4% of GDP. Public debt management is critical, with limited room for maneuvering as the government attempts to balance fiscal stability with the need for growth (SAV, 2026).

As a small, export-driven economy heavily integrated into German supply chains, Slovakia is vulnerable to potential U.S. tariffs on automobiles. Furthermore, energy-intensive sectors (e.g., steel, automotive) are facing high operational costs (up to 28% of running costs) compared to European competitors. Despite stagnating employment, companies expect a 7.2% rise in labor costs in 2026, driven by a shortage of qualified labor. Inflation is expected to temporarily exceed 4%, partly due to increased taxes and the new financial transaction tax,

eroding household purchasing power, though government energy support schemes are in place (MOF SR, 2025).

August 2026 is a critical deadline for implementing key reforms and projects funded by the Recovery and Resilience Facility (RRF). Besides, the ruling coalition (Smer-SD, Hlas-SD, SNS) faces a challenging pre-election environment, leading to high political polarization. There is no change regarding the foreign policy alignment either. The government continues to advocate for a "sovereign" foreign policy, prioritizing national interests, which may cause tensions with the EU and US regarding sanctions on Russia and energy security issues. Prime Minister Fico has expressed concerns regarding the implications of cutting off Russian gas supplies for Slovakia's energy security, questioning new EU sanctions. We cannot forget the continued concerns over adherence to the rule of law are cited as potential risks to the timely, effective drawdown of EU funds as well as social tensions. Anticipation of increased tensions, with potential political battles being brought to the streets, despite government assurances of maintaining a stable welfare state.

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SUSTAINABLE GROWTH OF THE SLOVAK REPUBLIC: DETERMINING THE OBJECTIVES OF INTERNATIONAL PUBLIC POLICY[1]

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Abstract: The sustainable growth of the Slovak Republic is inherently conditioned by the performance, legitimacy, and strategic orientation of public administration bodies. In an era marked by complex crises – economic, fiscal, and societal – the capacity of public institutions to operate effectively and transparently is essential for ensuring resilience and long-term development. A critical component of this process is the clear determination of institutional objectives, responsibilities, and mechanisms of accountability. This article aims to analyze the conceptual and legal framework of public administration in the Slovak Republic, with a focus on identifying and evaluating the core objectives of international public policy. Based on normative analysis and functional assessment, the authors propose de lege ferenda recommendations to improve legislation and institutional practice. These aspects aim to strengthen the administrative apparatus as a fundamental driver of sustainable growth in the SR.
Keywords: public administration, public authorities, sustainability, goals and responsibilities, Slovak Republic, UNO, EU
JEL: K20, K30, K33, O20

Introduction

The sustainable growth of the Slovak Republic depends on a properly structured and effectively functioning public administration. In the context of ongoing epidemiological, economic, financial, and social challenges, state administration must operate with enhanced efficiency, and public finances must be managed in an economical and accountable manner. Even minor failures in governance can trigger systemic crises. The current Slovak public administration system builds upon historical foundations while integrating modern elements in response to reform efforts and international obligations, especially within the EU and UN frameworks. Public administration, as both a research subject and real social phenomenon, encompasses several dimensions: societal functions, public tasks, institutional structures, and personnel.

The term "public administration" can be analyzed from political, legal, managerial, sociological, and economic perspectives. It represents a complex social phenomenon characterized by: (a) its status as a core function of the state, (b) its role in managing public affairs in the public interest of international public policy, (c) its susceptibility to political dynamics. According to *Britannica*, public administration is the implementation of public policy and includes planning, directing, coordinating, and controlling government operations.

The paper aims to analyze the concept of public administration, its institutional structures, and their goals, public policies, and responsibilities, while formulating *de lege lata*

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conclusions and *de lege ferenda* proposals. Partial objectives include identifying core pillars of effective governance, examining managerial and legal frameworks, and defining control mechanisms and improvement strategies for Slovakia's public administration system.

1 Managerial Bases of Public Administration in Slovakia

The organization and functioning of public power in Slovakia are strictly defined by law. From a managerial perspective, based on traditional and modern public administration theories, public administration should be politically neutral, structured as a centralized bureaucratic organization, and operate via top-down policy implementation with officials bound by procedural rules. For effective functioning, public bodies must have clearly defined tasks and measurable goals, supported by strategic plans (Holzer & Schwester 2011). Organizational processes should follow the PDCA (plan-do-check-act) cycle, with appropriate structures, roles, and competent staff involved in policy execution (Holzer & Schwester 2019).

Contemporary challenges include increased civic participation and the integration of information and communication technologies, leading to the development of eGovernment. This model aims to modernize and streamline public services, ensuring accessibility and efficiency. At the local level, eGovernment evolves into digital and smart city models, which promote sustainable economic development through collaborative governance and resource management. The legal framework for state administration bodies in Slovakia is based on the Constitution (Act No. 460/1992 Coll.) and Act No. 757/2001 Coll. on government organization. These laws define the legal status, rights, obligations, competencies, and powers of state entities.

Each state body is a budgetary organization established by law, acting in the state's name and responsibility, with a statutory body accountable for its actions. However, the legislation lacks explicitly defined measurable objectives, tasks, tools, indicators, and clear competencies for central public administration bodies, often only vaguely outlined in statutes or government regulations (§ 39 Act No. 757/2001 Coll.) (Klimovský 2014). Legally, the government and central administration bodies perform state administration nationwide, representing state interests in various areas. Notably, only the Central Bank of Slovakia has a precisely defined measurable objective – price stability – under EU law and national legislation (Act No. 566/1992 Coll.) (Potásch 2019).

2 Setting the primary goals of state administration bodies in the SR

First Commission Vice-President Frans Timmermans emphasized that sustainability is central to the European Commission's agenda. To improve public authority activities in Slovakia, goals, strategies, policies, tools, and indicators should build on the UN 2030 Agenda for Sustainable Development and EU objectives. These global frameworks provide a foundation based on the social market economy and environmental sustainability (Scholl 2002).

The UN's 17 Sustainable Development Goals (SDGs) include ending poverty, hunger, ensuring health, education, gender equality, sustainable water and energy, economic growth, infrastructure, reducing inequalities, making cities sustainable, climate action, ecosystem protection, peaceful societies, and global partnerships. Each goal includes detailed sub-objectives, such as SDG 8, which promotes inclusive economic growth, decent work, innovation, and resource efficiency by 2030. Achieving SDG 8 requires indicators like GDP per capita, employment rates, youth unemployment, and economic activity. Slovakia faces challenges, including high youth and long-term unemployment and moderate economic activity.

The EU's main goals also emphasize peace, security, sustainable development, competitive economy with full employment, social progress, environmental protection,

scientific progress, cohesion, cultural diversity, and monetary union. Values such as freedom, democracy, equality, rule of law, and human rights are integral to the European way of life.

Agenda 2030 is supported by 241 global indicators, which Slovakia aligns with its Sustainable Development Strategy and Smart, Sustainable and Inclusive Growth strategy. Based on the UN and EU goals, Slovakia must define its own goals, strategies, tasks, and measurable tools to ensure sustainable growth (Stillman 2009). As the saying goes, "What you cannot measure, you cannot do."

Legal liability is a fundamental legal institute of the state legal system. It means the obligation to bear consequences for unlawful conduct or to remedy its effects. Liability applies across various branches of law—administrative, criminal, civil, labor, financial, and commercial. It can be classified as: 1) private liability – for damage, unjust enrichment, defects, interference with intangible assets, damage caused by unlawful exercise of public power, and 2) public liability – constitutional, criminal, administrative, and disciplinary (Cepek 2018).

In public administration, liability includes damage caused by illegal decisions or incorrect official procedures. The Slovak Republic is responsible for damages caused by state authorities exercising public power. Legal guarantees in public administration include the right to information, petitions, complaints, protection against illegal inaction or legislation, and criminal liability of officials (Klimovský 2014).

3 Approval and Implementation of the International Public Policy of the SR in the Context of the UNO Sustainable Development Goals

The formulation, approval, and implementation of the international and European policy of the Slovak Republic constitute a comprehensive system of strategic public governance aimed at ensuring the efficient allocation of public resources, fostering sustainable economic growth, enhancing national competitiveness, and strengthening long-term macroeconomic resilience. The Slovak Republic's international commitments arising from its membership in the United Nations, the European Union, the OECD, NATO, and other international organisations establish a multilevel governance framework that aligns national economic, social, and environmental policies with internationally recognised principles of sustainable development, good governance, and institutional effectiveness (Joyce 2014).

The 2030 Agenda for Sustainable Development provides the overarching strategic framework for integrating the 17 Sustainable Development Goals (SDGs) into national and supranational policymaking processes. Within the fields of economics and management, particular significance is attributed to SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production), SDG 16 (Peace, Justice and Strong Institutions), and SDG 17 (Partnerships for the Goals). Collectively, these objectives promote sustainable economic governance, innovation-driven competitiveness, institutional transparency, and effective intersectoral cooperation, thereby creating the necessary conditions for resilient and inclusive socio-economic development (Shafritz 2016).

From a managerial perspective, the formulation of international and European policy may be conceptualised as a continuous strategic management cycle encompassing policy agenda-setting, objective formulation, evidence-based policy analysis, decision-making, implementation, monitoring, performance evaluation, and continuous policy refinement. This governance process incorporates contemporary management approaches, including strategic management, project portfolio management, performance management, public value management, risk management, and evidence-based policymaking. Consequently, decision-making processes increasingly rely upon robust analytical methodologies, economic forecasting, regulatory impact assessments, performance indicators, and data-driven evaluation

mechanisms designed to enhance both policy effectiveness and institutional accountability (Peters & Pierre 2017).

The implementation of international and European policies further necessitates a high degree of coordination among public authorities, European institutions, the private sector, academia, civil society organisations, and international partners. From the perspective of public sector management, successful implementation depends upon the effective coordination of institutional capacities, optimal resource allocation, digital transformation of public administration, innovation management, and systematic performance monitoring through Key Performance Indicators (KPIs) and other strategic evaluation instruments. Such an integrated governance approach contributes not only to improved administrative efficiency but also to the effective absorption of European financial instruments, increased investment attractiveness, enhanced innovation capacity, and greater resilience of the national economy to geopolitical, environmental, technological, and economic challenges (Peters 2015).

Within the contemporary paradigm of public governance, the implementation of international and European policy therefore extends beyond the fulfilment of international legal obligations. It represents a strategic management process focused on creating public value, strengthening institutional capacity, promoting sustainable competitiveness, and improving the quality and efficiency of public service delivery. Accordingly, the integration of economic principles, advanced managerial methodologies, and the Sustainable Development Goals provides a coherent governance framework that supports evidence-based decision-making, institutional excellence, sustainable development, and the long-term prosperity of the Slovak Republic within the broader European and global governance architecture (Peters & Pierre 2014).

This integrated approach reflects the evolving concept of good governance, whereby strategic management, policy coherence, institutional resilience, digital innovation, and sustainable development are recognised as mutually reinforcing pillars of effective public administration and responsible economic governance in the twenty-first century.

4 Responsibility of Public Institutions

The legal responsibility of public administration bodies constitutes a fundamental principle of the rule of law and democratic governance. In the Slovak Republic, liability encompasses both private-law and public-law dimensions, including liability for unlawful administrative decisions, maladministration, criminal and disciplinary offences, and violations of legal obligations. Public authorities are legally accountable for damages caused in the exercise of public power, while the State bears responsibility for unlawful actions of state authorities (Potásch 2019).

The Slovak legal framework also provides several accountability mechanisms, including access to information, petitions, complaints, judicial review, prosecution, parliamentary oversight, and the Ombudsman. These instruments ensure the legality of administrative action and the protection of individual rights (Cepek 2018).

However, the current system lacks legal mechanisms establishing managerial or political responsibility for failing to achieve predefined strategic objectives or public policy outcomes. Neither measurable goals, performance indicators, nor statutory responsibilities for achieving institutional objectives are comprehensively embedded in public administration legislation. This gap limits performance-oriented governance and weakens institutional accountability.

To align with the UN Agenda 2030, Slovakia should strengthen strategic governance by introducing legally defined objectives, measurable indicators, implementation deadlines, and performance evaluation mechanisms. Such an approach would enable control bodies to assess

institutional effectiveness and managerial accountability, thereby reinforcing transparency, evidence-based decision-making, and the overall quality of public administration.

Conclusion

Drawing from management theory, principles of public administration in democratic states, and de lege lata analysis, we can conclude that: 1) public administration operates effectively only when its goals, tasks, functions, principles, tools, strategies, policies, indicators, competencies, and responsibilities are clearly defined and legally established; 2) the formulation of goals and tasks must be explicit and precise in legislation, whether in constitutional or administrative regulations, rather than ambiguous as it currently stands; 3) the objectives and tasks of state administration bodies must be measurable; 4) the Government of the Slovak Republic and the National Council must be legally required to annually assess the achievement of both primary and secondary goals and tasks of each central state administration body and, when necessary, hold them accountable for failing to meet targets or complete duties. Only through such mechanisms can we guarantee that state administration bodies operate properly, efficiently, economically, and effectively.

Therefore, we recommend de lege ferenda measures to improve the functioning of state administration in Slovakia: 1) to codify in the Constitution and Act no. 757/2001 Coll. on government organization and central state administration the specific goals and tasks of central state administration bodies, especially incorporating the objectives outlined in the EU Agenda 2030; 2) to legally establish the accountability of statutory state administration bodies for failure to meet medium-term goals.

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