

The Turów coal mine international dispute as a determinant of the cross-border integration of inhabitants of the Polish-Czech border

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Abstract

The crisis around the operation of the Turów coal mine and its impact on cross-border relations in the Polish-Czech borderlands is examined in this article. The genesis of the international dispute and its course is analysed on the basis of international relations and border studies theories. Moreover, the specific cross-border relations and asymmetries in the area are studied. Then, the authors discuss the methodology and results of the research through questionnaires and formulate conclusions drawn from the research conducted by the Polish-Czech research team in 2022. The results prove that the nearly two-year Polish-Czech dispute over the Turów mine hurt the cross-border activity of the inhabitants of the Polish-Czech border. Despite alarming media news, this impact was weak and short-lived. It ultimately did not significantly impact the cross-border integration of the inhabitants or cause a deterioration of relations between the Polish and Czech sides of the Euroregion Neisse-Nisa-Nysa. The crisis was caused by the lack of adequate communication between local governments from Poland and the Czech Republic and insufficient commitment from the local and regional authorities. Another cause was the poor integration of residents in the border area, although the cross-border cooperation epitomised by the Euroregion Neisse-Nisa-Nysa is not poorly rated.

Keywords: Turów coal mine; international dispute; cross-border integration; Polish-Czech border; Euroregion Neisse-Nisa-Nysa

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1. Introduction

About one-third of Europeans reside in border regions, which are subject to several obstacles caused by the barrier function of national borders. Cross-border cooperation (CBC) is a vital tool that can help eliminate these barriers. CBC involves institutionalised cooperation between subnational public actors, with central states defining the terms and conditions for conducting CBC activities (Beck, 2019).

One such CBC entity is the German-Czech-Polish Euroregion Neisse-Nisa-Nysa (ERN), established in 1991 as the first cross-border entity involving members from the former Soviet bloc (Branda, 2009). The core area of ERN is called the Three-border Region. ERN has successfully developed and promoted cross-border partnerships and has served as a model for other such entities. The ERN has also been supported by the Little Triangle, a union of three municipalities closest to the trilateral border point (Zittau, Hrádek nad Nisou, and Bogatynia), and the European Grouping of Territorial Cooperation (EGTC) NOVUM, a Czech-Polish entity gathering five regions with CBC as its core business.

The ERN's success, however, has been tarnished by the bilateral dispute between Poland and the Czech Republic over the Polish lignite mine Turów. Severe effects of mining on the Czech territory have emerged since the 2010s. The conflict began in 2019 when the PGE (*Polska Grupa Energetyczna* = Polish

Energy Group), a Polish state-owned consortium, announced the mining expansion and its continuation until 2044. The dispute escalated in February 2021 when the Czech Republic sued Poland before the Court of Justice of the European Union (CJEU). The conflict was resolved through a bilateral agreement between the Polish and Czech governments in February 2022, with the national level taking the lead in the negotiations, leaving local and regional actors on the sidelines.

In this case, the political situation and atmosphere in Poland cannot be disregarded. The conflict over Turów was just one of many disputes between Poland and the EU bodies. It should also be underlined that the dispute cannot be reduced only to a debate at the level of the government and regional authorities. It offered several additional layers, where NGOs played their important role, as environmental organisations on both sides of the border conducted a coherent social campaign about the Turów power plant at the supranational level.

This article has a primary ambition to identify and quantify the impact of the dispute (and its politically tinged interpretation and media coverage) on cross-border activities, relations, and the trust of people inhabiting the area influenced by the conflict, mainly those from directly affected municipalities in the ERN. A secondary objective is to understand the dynamics of the dispute and its perception on both sides of the border. The added value

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of these goals and possible takeaway for international readership should be seen in the fact that we are analysing activities in the cross-border region, which has been heavily influenced by the presence of nationalist populism narratives, certainly at least in one of its parts.

The paper is structured as follows: after the introduction, in the theoretical part, we first define the international and cross-border dispute, and then we approach dimensions of cross-border integration (CBI), where we underline the importance of cross-border trust and civic engagement, as well as for resilient borderlands. The theoretical part also sketches the influence of nationalist populism narratives in the Polish part of the studied region. Afterward, we detail the development of the dispute and related reporting by the media. In the methodological part, we outline the methods used in our research. Then, we present and discuss findings and formulate main conclusions and a possible interpretation for readers.

2. Theoretical background

Our paper views cross-border conflict as contentious disagreements between countries, leading to short- or long-term disputes. This perspective is consistent with prior research conducted by Blatter (2001) and Chilla et al. (2012). The prevalence of border disputes in cross-border conflict (as noted by Popescu, 2008; Schultz, 2015; Vazquez, 2015) has sparked research into the underlying causes of these conflicts, their escalation, and the conditions under which they can be resolved (Meinhof, 2003; Kurnicki & Sternberg, 2016). These conflicts can be analysed and categorised based on different aspects such as intensity, degree of actor involvement, and damage to cross-border assets (Arieli, 2016; Berg, 2018).

A country can sue another country, but there must be common membership of both countries in the organisation that will decide the dispute (Sumner, 2004). The Turów dispute took place between the states of the EU, which has internal mechanisms for effectively enforcing compliance with the judgment. The mine is located in the ERN, where the CBC of subnational actors has been contributing to CBI since 1991. CBI is a complex process contributing to deterritorialisation, which encourages the exploration of soft rather than harder spaces by cross-border planning (Faludi, 2018), based on three dimensions:

1. The functional one is ensured by existing cross-border flows. These can be analysed using the gravitational model in geography and the concept of border effect;
2. The institutional dimension is a result of the involvement of various stakeholders in cross-border structures and projects. Cross-border structures can differ in geographical extent, cooperation intensity and type of involved subjects (Perkmann, 2003); and
3. The ideational dimension illustrates the level of mutual social trust between populations from either side of the border, which can even result in a perception of joint togetherness. This dimension is the hardest to measure.

In addition to sociological surveys, cultural-historical analysis searching for cross-border similarities can be used (Stoklosa & Besler, 2014). The intensity of cross-border contacts is crucial for building strong ideational CBI (Mirwaldt, 2010).

Our article will mainly focus on the ideational dimension, as it makes the difference between CBC groupings in the EU: the Czech-Polish border belongs to the new-new EU border region pattern with the weakest CBI. Generally, it is characterised by low mutual social trust between populations living on either side of the border, the low interpenetration of neighbouring border territories by the people, few cross-border activities, and a high dependency on INTERREG funding (Durand & Decoville, 2019).

The borderline is not a monolith however. The deepest CBI can be observed in the very east of the border, in Euroregion Śląsk Cieszyński/Těšínské Slezsko, with an autochthonous Polish minority on the territory of the Czech part of the Euroregion – acting as a cooperation bridge – and lowest barrier caused by language differences (Böhm, 2023; Pászto et al., 2019). The advanced level of togetherness was observed there in the times influenced by the Covid-19 pandemic when the locals protested against border-crossing restrictions in the divided town Cieszyn/Těšín (Kajta & Opilowska, 2021; Böhm, 2022a). Above-average CBI is also observable in the ERN, where the studied area belongs. ERN has a robust institutional dimension of CBI, resulting from the active role of the ERN involvement in CBC projects. Also, in the ERN, a certain level of cross-border togetherness was manifested by happenings along the (closed) border during the Covid-19 pandemic (Opioła & Böhm, 2022; Novotný & Böhm, 2022). The institutional strength of the ERN is not (yet) fully reflected in the integration of the population (Bohác et al., 2023).

Enhancing mutual trust across borders is a fundamental element of “social capital”, which denotes individuals’ ability to collaborate willingly. Trust arises from shared values and established routines (Anheier & Kendall, 2002). Consequently, individuals who have faith in one another are more likely to cooperate, and the beneficial outcomes of cooperation accumulate as they continue working together. Therefore, trust plays a pivotal role in selecting partners (Zach & Hill, 2017) and serves as the cornerstone for various forms of collaboration (Paldam, 2000). Strengthening cross-border trust has the potential to foster the development of cross-border identity. According to Andersen and Prokkola (2021), individuals’ self-identification is a vital asset and resource for adapting to geopolitical shifts. Cultivating positive emotions and emotional connections with cross-border regions’ “other side” appears significant (Lehtonen & de Carlo, 2019).

In building cross-border trust, the role of civil society is important, as it helps to deepen and extend direct relations between residents living on both sides of the border. The role of civil society and its challenges in the mining industry and energy transition have been extensively described in the literature (cf. Öge, 2017 or Aspinwall, 2021), but mainly on a “mono-national basis”. However, only recently, Zuk & Žuk (2022a) proposed to ask whether we can speak of a supranational global civil energy society inspired by the Turów conflict.

The continuous string of crises has emphasised the utmost significance of resilience in advancing border regions (European Commission, 2021; Chilla & Lambracht, 2022; Hippe et al., 2023). The notion of resilience has shifted the emphasis from reactive strategies to proactive approaches that cultivate a comprehensive capacity to rebound from adversity swiftly, effectively adapt to challenges, and endure the enduring strains imposed by crises on individuals and communities (Laine, 2021). As per Boschma (2015), resilience ought to be perceived through an evolutionary lens, considering it an ongoing process rather than a static region attribute. A resilient cross-border region can withstand disruptions in a manner that prevents a complete collapse of CBI progress. For instance, if there is a sudden increase in border control measures or a reduction in opportunities for CBC due to funding cuts, a resilient region will either adapt to the shock and maintain its current level of integration (referred to as an adaptive cross-border region), or it will transform itself by exploring alternative routes of CBC and achieve a higher level of integration (known as a transformative cross-border region) (Makkonen et al., 2019). Despite more attention given to the externally caused shock in the literature on the resilience of cross-border regions, Laine (2021) underlines the need to focus on the internally “slowly-boiled” crisis. The Turów-related dispute can serve as an example of this.

The entire turmoil around Turów did not happen in a political vacuum. The PiS (*Prawo i Sprawiedliwość* = Law and Justice) party, governing in Poland since 2015, is labelled as a right or nationalist populist one (cf. Przybylski, 2018; Varga & Buzogány, 2021). National populism is an ideology that prioritises the nation's culture and interests and promises to give voice to people who feel that they have been neglected, even held in contempt, by distant elites (Martinelli, 2018; Mazzoleni, 2023). For national or right-wing populists, the common enemy is the EU and its bodies, being the example of a remote, bureaucratic elite acting against the interests of the citizens (Mazzoleni, 2023).

The national-populist opposition against supranational powers and the appeal to restore people's sovereignty is strongly connected with a dialectic between territorial de-bordering and re-bordering (Popescu, 2012; Mazzoleni, 2023). Obviously, territorial sovereignty places borders at its core, making anything connected to a state's border or its traversal susceptible to potential politicisation (Scott, 2020).

3. The course of the Czech-Polish dispute over the Turów coal mine

Turów coal mine is located in the Bogatynia commune in Poland (see Fig. 1). The pit of the surface mine is currently less than 1 km from the Czech Republic and 200 metres from Germany. The scope of activities of the mine mainly includes mining and enrichment of lignite (KWB Turów, 2023). It is a property of PGE, owned by the Polish state, and due to its crucial role in the country's energy security, it provides around 7% of electricity consumed in Poland. The closure of the mine would result in the almost simultaneous shutdown of the power plant located in the immediate vicinity of the mine, meaning the loss of jobs for over 3,500 employees of the energy complex in Turów and nearly 1,800 people who work in companies cooperating with the PGE. The Turów energy complex is estimated to ensure a stable living for approximately 60–80 thousand people (Centrum Informacji o Rynku Energii, 2021). Moreover, the complex makes Bogatynia one of the wealthiest communes in Poland, although it is not visible at first sight to its visitors. Some parts of the commune and roads seem neglected. The dependence of southwestern Poland on the Turów complex is also evident from socio-economic data showing the smaller number of economic subjects in the surrounding area, which indicates the dominance of the complex as a leading employer (Statistics Poland, 2023). No such significant employer exists in the adjacent Czech borderland, where the economy is more diversified. Other cross-border asymmetries are observed in transport and environmental matters (Boháč et al., 2023). The number of votes

for the PiS party, which is pro-mining, in Bogatynia is traditionally above standard in the context of Western Poland (Państwowa Komisja Wyborcza, 2019).

In March 2020, the Polish Minister of Climate and Environment granted the Turów Mine a concession for extracting lignite in Turów until 2026. This decision was the spark that ignited a dispute that dominated the media space not only in Poland and the Czech Republic but also in the EU, promoting a climate justice agenda. The Czech Republic claimed that Poland violated European Union law by deciding to extend the Turów Mine license. Therefore, in September 2020, it brought a complaint to the CJEU. A complaint was supported by the petition of Czech citizens living near the mine, which the European Parliament and European Commission justified. In the opinion of the Czech Government, the main reason for the action was the negative impact of the mine on the border regions where the groundwater level had decreased, accompanied by problems with excessive noise and air pollution and the long-term discontent of local people and environmental activists. According to research conducted by Czech experts, approximately 30,000 people residing in the Czech part of the border region face a shortage of potable water (Datel & Hrabánková, 2020). In addition, according to the Czech side, Poland could not provide complete information concerning the procedure for issuing a mining permit until 2026. It violated the principle of sincere cooperation resulting from the EU Treaty. Thus, the government of the Czech Republic demanded that mining in Turów should be suspended until the CJEU reached a decision.

In April 2021, Poland demanded the CJEU to reject the Czech Republic's request to suspend production. The Polish side argued that the interim measure requested by the Czech Republic was disproportionate and did not ensure a proper balance of interests, "and its application would expose Poland and its citizens to considerable and irreparable damage" (Teraz Środowisko, 2021).

In May 2021, the CJEU acceded to the request of the Czech Republic and ordered Poland to immediately suspend production at the Turów Mine until the dispute was resolved. Considering the CJEU's decision unfair and impossible to implement, the Polish side refused to stop production in the mine. Consequently, there was a further escalation of the dispute, and the CJEU imposed a fine on Poland of 2.3 million PLN (500 000 EUR) per day starting September 20, 2021. Poland refused to pay the fine, so the EU has written off the final amount incurred by illegal mining between September 20, 2021, and February 4, 2022, from European project money for Poland.

On February 4, 2022, the governments of the Czech Republic and Poland, after several months of talks and negotiations, informed the CJEU of the conclusion of a settlement regarding the Turów Mine. In accordance with the regulations, the President of the CJEU decided to remove the case from the register, thus ending the nearly two-year-long dispute over the mine. The agreement between the governments of both countries assumed the payment by Poland of 35 million EUR in compensation and an additional 10 million EUR from the PGE to the (Czech) Liberec region. Out of the 35 million EUR paid by Poland, the government of the Czech Republic transferred 35 million to a transparent account of the Liberec region, and 10 million remained at the ministry's discretion (Žuk & Žuk, 2022b). The willingness of the Czech government led by Petr Fiala was partly explained by the adherence of his political party to the same fraction in the European parliament as the Polish ruling party. The political opposition and environmental activists criticised the agreement in the Czech Republic. The environmental activists criticised the low transparency accompanying the deal. They claimed that the agreement would not help the Czech part of the territory, and the political opposition declared that the amount paid by Poland should have been higher.



Fig. 1. The location of the Turów coal mine
Source: authors' elaboration

In the contract, the Polish side undertook, among others, to complete the construction of an underground wall to prevent groundwater runoff from the territory of the Czech Republic, as well as to build a protective wall and other measures to improve air quality in the ERN. Until mining is completed, the contract also provides for monitoring noise levels, air quality, landslides and groundwater levels. Part of the funds received from Poland was to finance monitoring stations measuring various physical and chemical properties and analysing incoming data. The 10 million EUR provided by PGE was to be used to support the financing of local and regional environmental projects under the auspices of the ERN. As a result of the agreement, mining in the Turów Mine will be possible until 2044.

The media intensely publicised the dispute. At first, the Polish press did not pay much attention to the matter, but after the Czech Republic filed a lawsuit with the European Court of Justice, they started covering it four times more than the Czech media. The analysis of the Institute of Media Monitoring (IMM) from Poland showed that the Turów crisis in the period from September 2020 to September 2021 was addressed by journalists representing all types of media in Poland and the Czech Republic nearly 120,000 times (including in social media), in which there were over 75,000 mentions, statements and comments from politicians, experts, citizens or environmental organisations. According to the IMM estimates, every Polish citizen over 15 could see information about the Turów Mine on television, radio, press, and internet portals as many as 72 times and in social media at least once. In the Czech Republic, however, these numbers are 58 times lower in traditional media and six times lower on social media channels (IMM, 2021). It appears that they were reporting on two different Turóws, however: the Polish media focused on the site's significance as the largest employer and a critical energy source for Poland. While they acknowledged the negative impact on groundwater levels, they emphasised that constructing an underground filter wall would resolve this issue. In contrast, the Czech media accentuated the environmental impact, specifically the loss of groundwater and increased noise and dust. Similar findings were revealed by the Czech company Newton Media (2021), which analysed Czech, Polish, and German online media coverage of the dispute from June 2019 to April 2021.

The dispute also had a different civic society engagement layer: NGOs from the Czech Republic, Poland, and Germany collaborated on a joint social campaign against the mine. It took place at the supranational level and involved various activities, such as petitions, demonstrations, media campaigns, legal actions, and lobbying at the European institutions. One of its goals was to support the lawsuit against Poland at the CJEU for extending the mining in Turów without proper environmental impact assessment and public consultation. The Court issued an interim measure that ordered Poland to stop mining until the dispute is resolved.

Another campaign goal was to highlight the absurdity of extending the mining in Turów until 2044, when the EU aims to be carbon-neutral by 2050. The campaign also emphasised the negative impacts of Turów on the water, air and soil quality in the surrounding areas. Greenpeace, Frank Bold, and Stop Turów on the supranational level or Neighbourhood Association Uhelná (*Sousedský spolek Uhelná*) and Together for Water (*Společně pro vodu*) on the local level, supported the Czech struggle. The Solidarity (*Solidarność*) movement, including trade unionists from the Turów energy complex, was a significant pro-mining NGO on the Polish side (Boháč et al., 2023).

4. Basic research assumptions and methodology

Our study primarily delved into the functional and ideational aspects of CBI. The impact of the Turów crisis on CBI's institutional dimension was not within the scope of this paper, as

it had been analysed by Kurowska-Pyss et al. (2022). In terms of operationalising CBI for our research, we grounded the ideational dimension by measuring spatial cross-border interactions, ideally through direct inquiries about relationships with individuals from neighbouring nations. To achieve this, we conducted a survey to track the percentage of individuals who frequently visit friends or family across the border. Additionally, our conclusions were informed by a broader understanding of cultural-historical factors in the studied region, such as the history of population exchange, border permeability, and linguistic similarities. When examining the functional dimension of CBI, our focus was primarily on the overall cross-border movement of people. The frequency of border crossings, as indicated by the survey, served as an indicator of the functional dimension for various reasons mentioned in the study. Also, the data on traffic intensity can be telling. Nevertheless, official public institutions focused on transport do not measure traffic intensity on the borders. That is why we present the data from Drápela and Bašta (2018) in the conclusions.

We acknowledge the limited validity of the data obtained from our central survey. Unfortunately, there is no centralised data available for cross-border commuting and other aspects of CBI. To compensate for this gap, we present the cultural-historical and transport findings, along with previous research results from Kurowska-Pysz et al. (2022) and Siatkowski et al. (2022), conducted within our project team (refer to the Acknowledgment section) as additional resources. Our research involved 15 anonymised, in-depth, semi-structured interviews with representatives from Czech offices, institutions, organisations, and local businesses, as well as 15 interviews with their Polish counterparts and beneficiaries engaged in CBC projects in the ERN. In total, 35 questionnaires were administered to individuals in both the Czech and Polish groups. The sampling for this research was purposeful.

It was assumed that the dispute over the Turów mine (at the central level – between the governments of Poland and the Czech Republic) had a significant, negative impact on the CBI of the inhabitants of Poland and the Czech Republic at the local level. Several heated protests of Czech environmental activists or trade unionists from the Turów Mine on the Czech-Polish border between Hrádek nad Nisou and Bogatynia supported this assumption. One of the medialised climaxes of the tension was when Alaska pub in Bogatynia put up a sign "We do not serve Czechs". Therefore, the unsurprising hypothesis was adopted that the escalation of the dispute between the Polish and Czech governments over Turów negatively impacted the CBI of the inhabitants of the ERN.

To test the research hypothesis, latent variables were placed in the structural equation model (SEM). SEM analysis was performed based on the factor model estimated by the principal components method in correspondence with the results obtained, which did not assume the elimination of any variable. The structural equation model is depicted in Figure 2.

To verify the hypothesis, a quantitative survey with local inhabitants was conducted involving a group of 330 people – residents of the Polish and Czech sides of the ERN, in 2022. 500,555 people inhabit the Polish side of the ERN, while the Czech side is inhabited by about 425,000 (CZSO, 2021b). The proper sample size (representative of the entire population of the ERN) was calculated based on the sample selection calculator, assuming a maximum error of 5% and a confidence level of 95%. Due to the lack of a suitable sample size, the deliberate selection of units for the sample was justified (the sample included people living in both the Polish and Czech sides of the ERN, in particular, people familiar with the problem of the dispute over the Turów Mine). Many efforts were made to ensure that the research sample, in terms of such characteristics as gender, age and education, was the best possible representation of the entire population affected

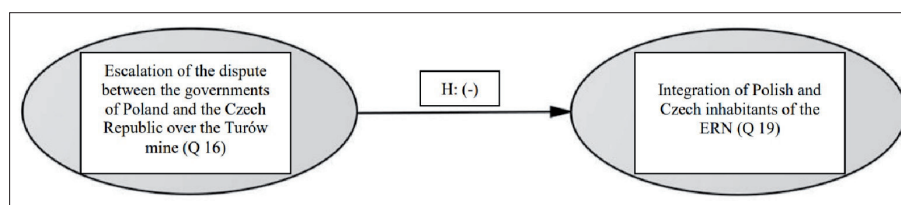


Fig. 2: Hypothetical-deductive model

Source: authors' conceptualisation

by the Turów problem. The main survey was carried out in the Bogatynia commune (21,891 inhabitants) (Statistics Poland, 2023), and on the Czech side, it covered the inhabitants of the following municipalities adjacent to Bogatynia and experiencing the adverse effects of mining: Hrádek nad Nisou (7,704 inhabitants), Chrastava (6,260), Heřmanice (260), Kunratice (354), and Višňová (1,353) (CZSO, 2021a). Considering only the affected area, the sample is even more representative.

The data were collected using a standardised paper questionnaire in the first half of 2022 after reaching the Czech-Polish agreement. 400 respondents took part in the survey. Following verification, incomplete and erroneous questionnaires were rejected. Ultimately, this resulted in 330 correctly completed questionnaires (194 questionnaires were filled in by the respondents on the Polish side, 136 by the respondents on the Czech side). Women constituted 58.18% of the sample, and men 41.82%. The most numerous groups of respondents were people aged 45–54 (27.69%) and 55–64 (18.46%). The majority of the respondents were respondents with secondary education (54.29%), and 22.09% were people with vocational education (see Tab. 1).

Characteristics		Share (%)
Gender	Females	58.2
	Males	41.8
Age (years)	18–24	13.9
	25–34	10.4
	35–44	16.6
	45–54	27.7
	55–64	18.5
	65 or more	12.9
Education	Primary	3.7
	Trade school	22.1
	Secondary	54.3
	Higher	19.9

Tab. 1: Personal data of the respondents

Source: authors' survey

Component	Please indicate to what extent you agree with the following statements.
Q_16.1	The dispute over the Turów Mine weakened the ties between Poles and Czechs
Q_16.2	The dispute over the Turów Mine made me stop seeing the area on the other side of the border (Poland/Czech Republic) as a place I would like to visit
Q_16.3	The dispute over the Turów Mine caused me to stop being interested in the problems of my neighbours (Poles/Czechs) living on the other side of the border
Q_16.4	The dispute over the Turów Mine caused me to lose faith in the sense of further development of Czech-Polish relations
Q_16.5	The dispute over the Turów Mine made me realize how much divides Poles and Czechs

Tab. 2: Components for measuring the impact of the dispute between the Polish and Czech governments on the perception of Czechs by Poles and Poles by Czechs. Source: authors' research

Component	What, in your opinion, is the impact of the dispute over the Turów Mine on local cross-border activity in the areas listed below
Q_19.1	Poles working in the Czech Republic
Q_19.2	Czechs shopping in Poland
Q_19.3	Poles travelling to the Czech Republic for tourism
Q_19.4	Czechs travelling to Poland for tourism
Q_19.5	Business contacts between Poles and Czechs
Q_19.6	Czech-Polish social contacts (e.g. between local governments, firefighters, sports clubs, social clubs)

Tab. 3: Components for measuring the cross-border integration of border residents in the ERN

Source: authors' research

In order to discern the impact of the dispute between the Polish and Czech governments on the perception of Czechs by Poles and Poles by Czechs, respondents were asked to respond to 5 statements on a 5-point Likert scale, ranging from "I strongly disagree" to "I strongly agree" (Tab. 2). The statements used to measure the impact of the dispute between the Polish and Czech governments on the general perception of Czechs by Poles and Poles by Czechs (5 statements in total) were developed based on individual in-depth interviews with experts professionally dealing with the issues of Czech-Polish relations. To capture the degree of integration of the Polish and Czech inhabitants of the ERN, the respondents were asked to respond to an additional 6 statements, also using the Likert scale (Tab. 3). The analyses used a combination of exploratory and confirmatory statistics. We detail our approach in the Appendix.

5. Results

The central hypothesis (H) assumes that the escalation of the dispute between the Polish and Czech governments over the Turów Mine harms the CBI of the inhabitants of the ERN. As a result, along with the increasingly negative perception of Czechs by Poles and Poles by Czechs (caused by the dispute between the governments of Poland and the Czech Republic), the tendency of borderland residents to participate in local cross-border activities indeed decreased. The parameters of the estimated model are presented in Table 9 in the Appendix.

The values of all measurements of the goodness of fit prove that the theoretical model was well-adjusted to the empirical data. Finally, the model correctly implies the actual structure of the variance-covariance matrix between the analysed components of the construct. The path model with the estimated coefficient (standardised coefficient) is depicted in Figure 3.

It can, therefore, be said that, in the opinion of Poles and Czechs, as the respondents' degree of agreement as to the negative impact of the dispute over the Turów Mine on the relationship

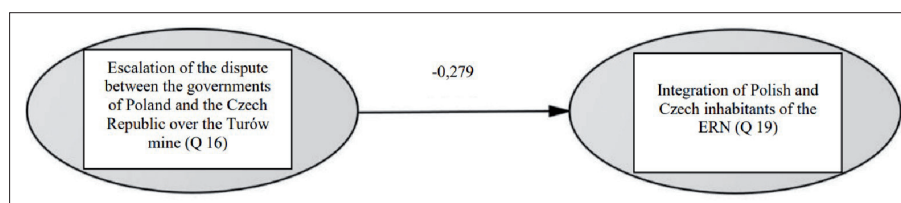


Fig. 3: Model with estimated coefficients – Poland and the Czech Republic

Source: authors' research

between Poles and Czechs increased, the more negatively they assessed the local cross-border activity in the areas mentioned in the study, thus confirming the adopted research hypothesis. The perception of Poles by Czechs and Czechs by Poles as a result of the intergovernmental dispute between Poland and the Czech Republic about the Turów Mine deteriorated, which harmed the already relatively weak CBI of the inhabitants of the ERN. The estimated parameters of the research model prove that the effect is weak (the standardised regression coefficient is -0.279) but statistically significant.

The frequency of crossing the Czech-Polish border by the surveyed inhabitants of the ERN with an indication of the purpose of crossing the border is presented in Table 4.

The most common reason for Czech respondents crossing the border is shopping – nearly 28% of respondents used this very often and often option, followed by travel (transit). Lower prices of food and petrol cause the popularity of the Polish borderland for shopping among Czechs. Polish respondents most often cross the border in connection with foreign travel (transit) and for tourist reasons (sport/tourism). Tourist and sport reasons are connected to the lack of tourist attractions and advanced sports facilities in Bogatynia.

Cross-border flows within the functional dimension of CBI in the Three-border Region are very pragmatic and basic. Crossing the border because of work, business, healthcare, and education is very rare. Crossing the border because of family or friends, which can strengthen the ideational dimension of CBI, is rare.

Additional research showed interesting data. Polish representatives, during interviews, denied any detrimental impact, a sentiment echoed by most Czech counterparts. Their

perspectives diverged significantly, however, regarding the roots of the conflict. Polish representatives attributed it to external factors, alleging it was artificially created by the Czech central authority, influenced by the 2021 parliamentary elections and the efforts of the Andrej Babiš government to sway the Czech electorate, exacerbated by media coverage. In their view, Polish environmental negligence played a secondary role. On the other hand, Czech representatives believed the conflict stemmed from Polish non-communication, obstructionist behaviour, and the absence of constructive proposals across various hierarchical levels, as Siatkowski et al. (2022) documented.

According to the observations from individuals within the CBC entities in the ERN, the negative impact of the Turów dispute on CBC and CBI was limited, with slightly more significant repercussions felt on the Polish side (see Tab. 5). No noticeable adverse effects on their project teams' and partnerships' interpersonal relationships were revealed. According to the CBC project beneficiaries, the most significant (rather negative) impact was obvious in general neighbour relations between Czech and Poles in the studied region.

6. Discussion and conclusions

The Turów-related conflict was not the first Czech-Polish intergovernmental conflict. Importantly, not all disputes were a disintegrating factor on the Czech-Polish border. An example of this kind of dispute may be the 1988 conflict over the construction of a coking plant in Stonava (a municipality in the Śląsk Cieszyński/Těšínské Slezsko Euroregion, close to the Polish border). The chain of events triggered by the decisions on this investment, both at a central and local level, including mass protests, was something

Reason for crossing the border	Very often (%)		Often (%)		Rarely (%)		Very rarely (%)		No crossing (%)	
	PL	CZ	PL	CZ	PL	CZ	PL	CZ	PL	CZ
Family/Friends	3.8	0	10.9	7.6	11.4	7.6	7.6	5.9	66.3	78.8
Work	7.1	0	1.1	3.5	1.1	9.7	1.6	3.5	89.1	83.3
Business	1.1	0.9	1.1	5.3	2.2	0.9	6.0	7.1	89.6	85.8
Shopping	1.1	3.3	6.5	24.6	16.3	28.7	26.6	27.1	49.5	16.4
Learning (education offer)	0	0	2.2	1.7	2.7	5.2	1.6	12.9	93.5	80.2
Healthcare (medical services)	0	0	1.1	0	3.8	0.9	8.2	6.3	86.9	92.9
Culture/Entertainment	3.3	0.9	8.7	1.8	11.9	9.0	25.0	27.0	51.1	61.3
Sport/Tourism	8.6	0	15.1	7.0	20.5	21.9	26.0	31.6	29.7	39.5
Journey (transit)	10.6	8.6	14.3	8.6	26.5	19.8	22.8	26.7	25.9	36.2

Tab. 4: Main reasons for crossing the Czech-Polish border by the surveyed inhabitants of the ERN. Source: authors' research

Reason for crossing the border	Very negative (%)		Rather negative (%)		Neither (%)		Rather positive (%)		Very positive (%)	
	PL	CZ	PL	CZ	PL	CZ	PL	CZ	PL	CZ
Good neighbour relations between Poles and Czechs on the border	5.7	13.5	40.0	30.0	51.4	56.8	2.9	0	0	0
People-to-people contacts in Czech-Polish teams that jointly implement cross-border projects	0	2.7	11.4	18.9	82.9	75.7	2.9	2.7	2.9	0
Communication between Polish and Czech partners in cross-border projects	0	0	17.1	10.8	77.1	86.5	5.7	2.7	0	0

Tab. 5: Comparison of assessments regarding the impact of the Turów dispute on the aspects of Czech-Polish cross-border cooperation and integration. Source: Kurowska-Pysz et al., 2022 (modified by the authors)

new for the Czech-Polish border. As a result, the decision to build was suspended (Wróblewski, 2020). In 2003, the construction of a coal-fired heating plant in Stonava, Czech Republic, began again. The decision to commence the investment was carried out in secrecy. The information finally appeared in the Polish press, however, which caused concern among local communities on the Polish and Czech sides of the border. Protests were organised, there were diplomatic interventions, and alarmist petitions were sent. Polish expert opinions warned that contamination standards might be exceeded periodically in the Moravian Gate, the Beskydy Mountains, and Upper Silesia. Czech ecologists also became active as it turned out that 90% of pollutants from Stonava would settle within 3.5 km of the heating plant (mainly in the territory of the Czech Republic). The disputes over Stonava, however, were significant not only because of the ecological emotions that often accompany investments in the energy sector. Their rank and importance resulted from the fact that, for the first time in the history of Czech-Polish contacts, these disputes broke the mutual isolation of local border communities. An utterly unique structure of the actors in this conflict was formed, as the regional civic circles from the Czech Republic and Poland stood against political authority. Thus, Czech-Polish intergovernmental disputes over Stonava had a character that integrated the local community on the border.

The research conducted in the ERN area shows that the Turów crisis was different, however. It was confirmed that the emotions felt during this intergovernmental dispute did not significantly translate into integrating local communities on both sides of the border. The crisis was more similar to the Temelín crisis between the Czech Republic and Austria (Fawn, 2006) by dividing local communities on both sides of the border and involvement of the EU. The analyses and calculations carried out within our research indicate that the impact on integration was negative. The negative effect on the CBI of local communities was relatively weak, however, and incidents mentioned among basic research assumptions were sporadic.

Additional research showed that Czech and Polish representatives did not notice any changes in Czech-Polish relations during the Turów dispute. Still, they had different opinions about the causes of the Turów dispute. Contrasting viewpoints reduced the possibility of reaching an agreement at the regional level. CBC project beneficiaries, unlike representatives, pointed out the slight deterioration of Czech-Polish relations during the crisis and no major problems within their practical CBC. These diverse findings (Kurowska-Pysz et al., 2022; Siatkowski et al., 2022), obtained through different research methods, paint a multifaceted picture of the Turów crisis's influence on CBI.

The negative effect could have been stronger if the research had been conducted earlier when the dispute peaked. The Czech-Polish agreement on Turów was acceptable to the Polish side, so the Polish population could consider it a victory. That is probably why relations with Czechs were no longer so tense. The effect of cross-border disputes on CBI is not much studied in the scientific literature. Mirwaldt (2010) applied the contact theory to border studies and found the connection between intensive cross-border contacts and positive cross-border citizen relations. We also found a correlation between the intensity of cross-border contacts and cross-border citizen relations, which can be perceived as an ideational dimension of CBI.

The course of the dispute showed the brutal political realism of the Polish government and regional government, preferring energy and job security, which disregarded environmental protection and peaceful neighbour relations. The Polish approach coincides with its illiberal policies of the last years, conflicting with the EU's social, economic and political ethos (Szent-Ivanyi & Kugiel, 2020). Polish Turoszów Basin residents adopted the attitude of energy

nationalism and seemed reluctant to accept any changes in the region (Žuk, 2023). The more considerable involvement of Poles in the dispute was also reflected in the higher participation of Polish respondents in social action/demonstrations connected with the conflict, as almost a quarter of Polish respondents (24%) took part in them. In contrast, the participation on the Czech side was four times lower. In the end, participants declared a certain level of tiredness, claiming that the conflict could have been resolved much earlier without the intervention of the CJEU.

Initiatives led by the ERN to mitigate the effects of the dispute were relatively little known by the inhabitants on either side of the border. Almost half of the respondents from the Czech side and 70.4% of Polish residents heard about local social consultations regarding resolving the dispute over the Turów Mine. Still, their participation in social talks was minimal. They had little knowledge about the organisers and did not know the local actions that were designed to alleviate the dispute. Therefore, it can be concluded that despite many cross-border projects, often implemented by Polish and Czech public institutions (including local governments) or third-sector organisations, ideational integration and mutual trust should be more advanced in this particular border area, which, despite the institutional strength of the ERN (especially the Czech part), belongs to the new-new EU border region pattern (Böhm et al., 2023).

There was no sincere dialogue between the main actors in the dispute at the local or regional levels. The attitude of the ERN, an entity run by three national secretariats, cannot be described as mutual communication. Whereas the Czech secretariat at least tried to engage in discussions, the Polish one instead pretended that no dispute existed. Hence, we believe that both "covidfencing" (Medeiros et al., 2021) and the Turów dispute have effectively highlighted the limitations of the current ERN based on the collaboration of three distinct legal entities. It would be a logical step to establish an EGTC, which would undoubtedly compel CBC actors to work together in a more coordinated fashion.

Current social weak ties visible from the table depicting the ideational level are the product of many factors. We should mention the existence of a border that was little permeable in the past (especially during the Socialist era), the absence of historical ties with an influx of people unrelated to the region (the Polish part was inhabited by a new population after World War 2 and in the Czech part, approximately 90% of people were newcomers) poor knowledge of the neighbours' language (despite the languages belong to one Western Slavic language branch) (Böhm, 2022b), the entrenchment of national stereotypes and historical traumas (Hřebíčková & Graf, 2014), and preference of national matters over cross-border ties (Boháč et al., 2023). Despite the implementation of many cross-border projects between the inhabitants of both countries, a clear division between the Polish and Czech communities is still visible, which prevents narrowing the mutual cognitive distance between both communities (van Houtum, 2000). The "us and them" effect – identified in all research phases – indeed fed the mutual mental distance and reduced cross-border trust between people. It also contributed to extending the "indifference bandwidth" (Spierings & van der Velde, 2013). The only examples of initiatives held as a reaction to the dispute, which tried to expand its own "cognitive space" by involving the other side in the "joint local" (Svensson & Balogh, 2021), were those organised by environmental NGOs. These NGOs are, however, with one example, based outside of the ERN.

Data from the studied area are available in the article measuring border effect in the Three-border Region (Drápela & Bašta, 2018). Border effect documents the functional dimension of CBI. These data are old, and the situation has slightly changed due to increased Czech demand for food and gasoline from Poland, but they can serve as an illustration. They show a significant border

effect between the Czech Republic and Poland in the studied region (specifically on the roads between Frýdlant and Bogatynia or Habartice and Zawidów in comparison to the roads connecting the Czech Republic and Germany), which is caused by the above-mentioned weak social ties and poor transport infrastructure (especially on the Polish side of the border).

CBI is a multi-stage and extended process. It must reach a stage, however, where a sincere dialogue and mutual, constant contact between Poles and Czechs will make the community living in the cross-border area more coherent and harmoniously functional. Thanks to this, in the future, disputes will be able to be resolved much faster at local or regional levels and not at the central level or on the EU forum. The emergence of new and difficult-to-solve situations may result in temporary local conflicts that disrupt the current integration shape. In such cases, however, it is to be hoped that as a result of the long-standing contact and cooperation of the inhabitants of the cross-border area and their mutual consolidation that has occurred due to conflict situations, everyone will strive to solve them quickly. The research shows that such a situation did not happen in the ERN, however. Therefore, the CJEU was involved in resolving the dispute. Only then, despite many adversities, differences of opinion, divergent interests or ignoring the other party's arguments, the controversy over the Turów Mine was terminated.

Notably, the Turów dispute suggests that border regions can be viewed as spatial circumstances that can be leveraged for populist mobilisation within multifaceted governance contexts (*cf.* Mazzoleni, 2023). This card has been played by the Polish PiS party also a long time after the conclusion of the bilateral agreement, as it started its election campaign with a rally in Bogatynia in May 2023, applying clear “defending our interests” rhetoric. The research outcomes also advise that populist-nationalistic narratives influence cross-border social practices, at least to some extent, and are a challenge for resilient CBI.

We believe that our results may constitute a starting point for further research on stimulants and de-stimulants in the process of CBI of the inhabitants of the Czech-Polish border. The challenges arising from the dispute can catalyse personal and societal development, presenting an opportunity for transformation. By embracing these adversities, individuals and communities can develop resilience, allowing them to adapt and flourish amidst persistent change and uncertainty (Shaw, 2012). It is also worth asking whether this conflict can facilitate the construction of a supranational civil energy society.

Poland is a prominent lignite producer in Europe, contributing 46 million tonnes annually, constituting 20% of the EU's total production. The country's energy infrastructure heavily relies on lignite. The Czech Republic, a significant lignite extractor with an annual output of 29 million tonnes, maintains a more considerable energy diversity (data for 2020 – Eurostat, 2021). The lignite mines in the Czech Republic are not located in the immediate vicinity of borders, so they do not cause cross-border tensions and their adverse effects are felt by Czech citizens. Both countries have ambitious official plans to transform their energy sector within the adaptation to the EU regulatory requirements related to the 2030 climate and energy targets, the European Green Deal and the pursuit of climate neutrality tied to the Paris Agreement. The transition in Poland and the Czech Republic, however, would be complicated if we consider their current state compared to the EU average energy situation (e.g. types of energy sources, the share of renewable energy, the share of emissions coming out of the energy sector).

Therefore, our research also indicates other than cross-border consequences: the conflict around Turów may be a symbol of both tensions and challenges related to energy policy that will occur in the coming years with limiting the import of fossil fuels

from Russia or other controversial countries and general energy transition in the EU. In this sense, this dispute has also revealed the semi-peripheral and possibly backward nature of the energy model existing in post-communist EU member states, mainly those from the Visegrad Group (Žuk et al., 2023).

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Appendices

First, an analysis of the reliability of the component used to measure the perception of Czechs by Poles and Poles by Czechs in connection with the dispute was carried out. It was done using SPSS software and the "Reliability analysis" module. As the analytical model, Cronbach's alpha internal consistency model was selected based on the average correlation between the scale items (Timm, 2002) – in the case analysed, this was 0.854. The result is satisfactory, and further analysis did not show that removing any item would significantly increase Cronbach's alpha value. The next stage was exploratory factor analysis performed using the principal components method and Promax orthogonal rotation using SPSS software (Konarski, 2015). The Kaiser-Meyer-Olkin (KMO) sample adequacy coefficient was 0.825. A KMO coefficient of 0.825 indicates that there are grounds for factor analysis. Similarly, in the case of the Bartlett sphericity test – the hypothesis of the individuality of the correlation matrix between the statements can be rejected. Assuming that the 5 statements analysed constitute a single factor, it was observed that this explains 64.151% of the variability of the input data set. Thus, reducing the 5-dimensional set to a single, hidden factor results in the loss of 35.849% of the information. Assuming that the variables for which factor loadings exceed 0.5 (in terms of a module) should be selected, the final matrix of factor loadings is presented in Appendix 1.

Component matrix	
Component	Component 1
Q _16.2	0.879
Q _16.3	0.841
Q _16.5	0.824
Q _16.4	0.822
Q _16.1	0.610

Factor extraction method – principal components.
a. 1 – number of extracted components.

Appendix 1: Matrix of factor loadings
Source: authors' research

The information in Appendix 1 shows that all the variables have high positive value factor loadings on the factor analysed, which is the desired result. Then, the reliability of the components used to measure the degree of CBI of Polish and Czech inhabitants of the ERN was analysed. The software used, and all assumptions are the same as in the case of the previously discussed component used to measure the perception of Czechs by Poles and Poles by Czechs in connection with the dispute. The system used to measure the CBI of the inhabitants of the ERN consisted of six test items. For such a set of questions, Cronbach's alpha coefficient is 0.916. The result is satisfactory, and further analysis demonstrated that removing any item would not increase Cronbach's alpha value. Reliability analysis showed that all items in the summary scale strongly correlate with it (above the level of 0.6). It follows that in further research, all analysed statements should be used. In the next step, factor analysis was performed. The sample quality is as follows for the six statements making up question 19 (Appendix 2).

Kaiser-Mayer-Olkin and Bartlett tests		
KMO measure of sampling adequacy		0.897
Bartlett's sphericity test	Approximate chi-square	1061.604
	Degree of freedom	15
	Relevance	< 0.001

Appendix 2: KMO test and Bartlett sphericity test
Source: authors' research

The KMO coefficient of 0.897 indicates that there are grounds for factor analysis. Similarly, in the case of the Bartlett sphericity test – the hypothesis of the individuality of the correlation matrix between the statements can be rejected. The obtained results indicated that they fit with the data – none of the scale items were eliminated from the analysis. Considering the degree of explanation of the variability of the input set of variables, it was possible to detect one factor explaining 70.81% of the information for the full set of 6 observable variables. Thus, reducing the 6-dimensional set to a single, hidden factor results in the loss of 29.19% of the information.

Assuming that the variables for which factor loadings exceed the level of 0.5 (in terms of a module) are selected, the final matrix of factor loadings is shown in Appendix 3. The data shows that all the variables have high positive value factor loadings on the factor analysed, which is the desired result.

Component matrix	
Component	Component 1
Q_19.3	0.897
Q_19.4	0.893
Q_19.2	0.829
Q_19.5	0.820
Q_19.1	0.814
Q_19.6	0.789

Factor extraction method – principal components.
a. 1 – number of extracted components.

Appendix 3: Matrix of factor loadings

Source: authors' research

The information in Appendix 4 shows that the opinion of the dispute (question 16) harmed the CBI of the inhabitants of the ERN. The relationship is statistically significant and weak (at the level of -0.279). Appendix 5 presents the measures of the goodness of fit of the model fit. The values of all measurements of the goodness of fit prove that the theoretical model was well-adjusted to the empirical data. Finally, the model correctly implies the actual structure of the variance-covariance matrix between the analysed components of the construct. The path model with the estimated coefficient (standardized coefficient) is depicted in Figure 3.

Component		Model coefficient	Standardized coefficient	Standard error	t statistics	p-value	R-square
Local cross-border activity (Q_19)	<... Opinion on the dispute (Q_16)	- 0.232	- 0.279	0.057	- 4.062	< 0.001*	0.078

Appendix 4: Model coefficients

* Statistical significance at the level of 0.05

Source: authors' research

The goodness of fit measure	Value	Status
CMIN/degree of freedom	1.237	acceptable
RMR	0.034	acceptable
GFI	0.982	acceptable
AGFI	0.957	acceptable
CFI	0.998	acceptable
RMSEA	0.011	acceptable
PCLOSE	0.976	acceptable

Appendix 5: Model goodness of fit measurements

Source: authors' research