

8. Cross-border cooperation in the EU in light of economic fluctuations: The case of the Polish-German borderland

ŁUKASZ D. WRÓBLEWSKI

<https://orcid.org/0000-0003-3677-043X>

Poznań University of Economics and Business

lukasz.wroblewski@ue.poznan.pl

Abstract: The Polish-German borderland provides a test of whether territorial cooperation follows actual economic linkages or merely geographical proximity. The chapter combines literature and legal-document reviews with Eurostat GDP data for NUTS3 border regions from 2000 to 2020. Cyclical fluctuations are extracted with the Hodrick–Prescott filter and compared through Pearson correlations. Although local governments frequently cooperate with directly adjacent partners, business-cycle convergence between neighbouring Polish and German border regions is rare and usually weak. Some correlations appear between territories that do not share a border, while several commonly cited cross-border links show little economic synchronisation. The chapter challenges border-centred thinking in cooperation policy. More effective projects require evidence on real socio-economic interdependencies, not only administrative adjacency or historical partnership patterns.

Keywords: border regions, Polish-German borderland, business cycles, European Union, European Territorial Cooperation, Interreg.

Introduction

Cross-border cooperation is a relatively new research subject; though widely addressed in political science, sociology, law, and geography, it has been less frequently explored in the field of economics (Perkmann, 2003; Wróblewski, 2020, 2021, 2022, 2024). The growing interest in cross-border cooperation is undoubtedly linked to the intensification of integration processes occurring in Europe at regional and local levels. The latter has included the establishment of the first Euroregional structures along the borders of Western European states in the late 1950s and early 1960s, followed by their expansion to the eastern part of the continent in subsequent decades. Equally significant was the adoption of key legal instruments by the Council of Europe in the 1980s, including

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the Framework Convention on Cross-Border Cooperation. However, the most critical factor in the development of cross-border cooperation in Europe has been the financial support from the European Union, particularly within the framework of European Territorial Cooperation.

The primary objective of cross-border cooperation is to address shared challenges faced by border regions. In the EU, local governments predominantly engage in such cooperation with administrative units located directly across the national border. This approach is also reflected in much of the subject literature (Perkmann, 2003; Wróblewski, 2022, 2024).

However, the criterion of border adjacency – that is, mere geographical proximity – as a basis for territorial cooperation has been somewhat overemphasised. Such a narrow focus may fail to account for the needs of the real economy. For instance, businesses operating in border regions primarily respond to market-driven goals and mechanisms rather than their own location on the border. This aspect is often overlooked in cross-border cooperation projects, as geographical distance is becoming less relevant.

As a result, policymakers who fail to comprehend the actual economic linkages within a given region may propose solutions or make decisions that are unjustified and fail to address the needs of local businesses or workers. It is therefore essential to approach the issue of cross-border cooperation and linkages from the perspective of said economic needs. Doing so may enable local governments to develop appropriate regional development pathways and strategies while also designing adequate cross-border cooperation projects.

This study seeks to examine cross-border cooperation among border regions in the context of business cycle convergence, using the Polish-German borderland as a case study. To this end, an assessment was conducted of the degree of synchronisation of business cycle fluctuations in NUTS3 border regions along the Polish-German border. The study draws on GDP data from the years 2000–2020, sourced from the Eurostat database, and employs the following research methods: literature and legal document analysis, the Hodrick–Prescott filter, and Pearson’s linear correlation.

8.1. Cross-border cooperation support in the EU

Cross-border cooperation denotes some form of cooperation undertaken by at least two entities located across a state border to achieve a common goal. While numerous forms of cross-border cooperation exist (Wróblewski, 2022), local governments can only undertake cooperation within the limits established by domestic law. Consequently, individual entities in different EU countries may

different or legally insufficient jurisdictions in this regard (Wróblewski, 2020, 2021, 2022, 2024).

The term 'cross-border cooperation' does not appear in EU legislation. Instead, the term 'territorial cooperation' is used. This designation was introduced by the European Commission, the Council, and the European Parliament in response to a recommendation from the Committee of the Regions, which called for a clear definition encompassing cross-border, interregional, and transnational cooperation.

The EU supports cross-border cooperation along its internal and external borders. It occurs in legal, organisational and financial dimensions (Perkmann, 2003; Virkkunen, 2002). The legal dimension includes the EU cohesion policy law, while the financial dimension is manifested in the establishment of financial instruments (Perkmann, 2003). The organisational dimension, on the other hand, refers to the management of cross-border cooperation programmes, including by designated managing authorities.

One of the first initiatives supporting such cooperation was the Phare Programme, established in 1989. Its primary objective was to assist the economic and political transformation of Central and Eastern Europe. It comprised three components: Phare CBC, Credo, and Tacis. For example, Phare CBC focused on supporting cooperation along the external borders of the EU. For instance, Poland's borderlands saw the implementation of several programmes (Poland–Germany, Poland–Czech Republic, Poland–Slovakia, and Poland–Baltics).

In the following years, support for cross-border cooperation on the borders of EU Member States was mainly carried out through the Interreg initiative. Its establishment emphasised the importance of territorial cooperation for territorial, social and economic cohesion, with five editions implemented to date (1991–1993, 1994–1999; 2000–2006; 2007–2013; 2014–2020).

However, the direct inclusion of territorial cooperation as a distinct objective within the EU's regional policy only occurred with the 2007–2013 programming period. At that time, European Territorial Cooperation (ETC) became a separate goal of cohesion policy. Furthermore, the European Parliament and the Council adopted an implementing regulation for funding territorial cooperation through the European Regional Development Fund (ERDF) only for the 2014–2020 period. Currently, the primary legal basis for territorial cooperation in the European Union is Article 178 of the Treaty on the Functioning of the European Union (TFEU), alongside the aforementioned Regulation 1299/2013.

For the 2021–2027 financial period, ETC consists of four components, rather than three as in previous programming periods (Component A: cross-border cooperation; Component B: transnational cooperation; Component C: interregional cooperation; Component D: cooperation of outermost regions with re-

gions of neighbouring countries). For instance, Component A concerns NUTS3 border regions located along all land borders of the European Union and maritime borders, which are not separated by a distance of more than 150 km. This component supports regions in solving common problems, hoping to contribute to the harmonious development of the entire EU (allocation: 72%). Support is provided for projects concerning such aspects as entrepreneurship, SMEs and cross-border trade, environmental protection, communication infrastructure, human capital, labour market or culture.

The second key instrument supporting cross-border cooperation among border regions in the European Union – this time with a strictly legal dimension – is the European Grouping of Territorial Cooperation (EGTC). Its primary objective is to eliminate legal barriers to territorial cooperation. EGTCs enable national, regional, and local authorities, as well as other public law entities, to establish formal cooperation structures. These structures are granted legal personality in accordance with the laws of the country where their headquarters are located. However, EGTCs do not engage in industrial or commercial activities.

Public entities from third countries may also participate in EGTCs, provided that they share a border with at least one EU member state and that the state in question takes part in EU territorial cooperation programmes. At the same time, EU Member States bordering third countries must recognise their participation in EGTCs as being in line with the scope of their territorial cooperation policies or the state of bilateral relations.

Contrary to expectations, EGTCs are not a widely adopted cooperation structure (Wróblewski, 2020, 2021). For instance, only five groupings are currently headquartered in Poland. However, none of these concern the Polish-German border, despite the establishment of four Euroregions in this area since the early 1990s and the numerous bilateral agreements and cooperation arrangements concluded between Polish and German local government units. The academic literature also provides ample evidence for the intensity of cross-border cooperation along the Polish-German border. The limited use of EGTCs in this context may stem from the fact that their scope of activity – such as transport corridors or R&D – often exceeds the jurisdiction of local governments. As a result, local authorities may perceive them as instruments that do not fully align with their needs. This raises the possibility that EGTCs may not effectively address the issue of institutional distance, or that, in the view of policymakers, it is simply not considered an essential tool for establishing an efficient form of cooperation.

8.2. Cross-border cooperation in the Polish-German borderland and the convergence of economic fluctuations

Cross-border cooperation in the Polish-German border area occurs mainly on the basis of direct agreements between local authorities. It then manifests itself in a range of activities, from study visits or joint sessions of local authorities, through the organisation of cultural or educational events, to flood protection, support for entrepreneurship or the development of local labour markets. The majority of these activities are implemented as part of projects co-financed by the ERDF under ETC.

Nevertheless, policymakers in borderland local governments seem to place excessive faith in the geographic location, specifically proximity to the border. Most cross-border cooperation strategies developed by local governments focus on partnerships with directly adjacent entities across the state border. The subject literature reflects a similar border-centric approach. This issue also results from EU-funded programmes supporting cross-border cooperation, such as Interreg, which define cooperation priorities with a strong emphasis on spatial factors. As a result, local decision-makers lacking knowledge of the actual economic linkages within a given region may propose solutions or make decisions that are misaligned with economic realities, designing cooperation strategies or projects solely based on border proximity.

However, socioeconomic linkages, such as business cooperation and labour migration, often occur between regions located further away from state borders. For example, many enterprises operating in the Polish-German borderland follow market-driven logic and seek business partners or consumers based on market considerations alone rather than on the mere fact that a potential partner happens to be located across the border (Wróblewski, 2021, 2022, 2024). While border proximity creates conditions for cooperation, it is not a decisive factor. The key driver of such activities remains market mechanisms, whereas geographical location is becoming increasingly irrelevant in the modern economy.

Central in this regard is the phenomenon of real business cycle convergence. In a general sense, it means the degree of complementarity between economic processes observed in a region and the condition of the economy of other regions or the national economy as a whole. This phenomenon is completely overlooked in borderland studies literature. In turn, the literature produced in the field of macroeconomics, i.e. one relevant to such phenomena, fails to consider the economic situation from the point of view of lower than NUTS2 units (de Haan & Montoya, 2007; Volpe Martincus & Molinari, 2007). In most cases, the authors limit their reflections to the level of national economies. Identifying trends and

The research procedure was conducted in five distinct stages. In the first stage, data on gross domestic product at current prices, along with annual data for 2000–2020¹ for the regions under study, was converted into natural logarithms. In the second stage, the trend value for the logarithmic data was determined using the Hodrick–Prescott method (Hodrick & Prescott, 1997). Next, the cycle of deviations from the trend line was determined. The correlation of business fluctuations was subsequently determined for the regions under study employing Pearson’s linear correlation. The final step was to classify the obtained correlations into one of five proposed classes (Table 8.1):

Table 8.1. Criteria for classifying the correlation of economic fluctuations

Degree of correlation	Classification criteria
Very high	$r \geq 0.95$
High	$0.95 > r \geq 0.87$
Moderate	$0.87 > r \geq 0.71$
Low	$0.71 > r \geq 0.50$
No correlation	$r < 0.50$

Source: own elaboration.

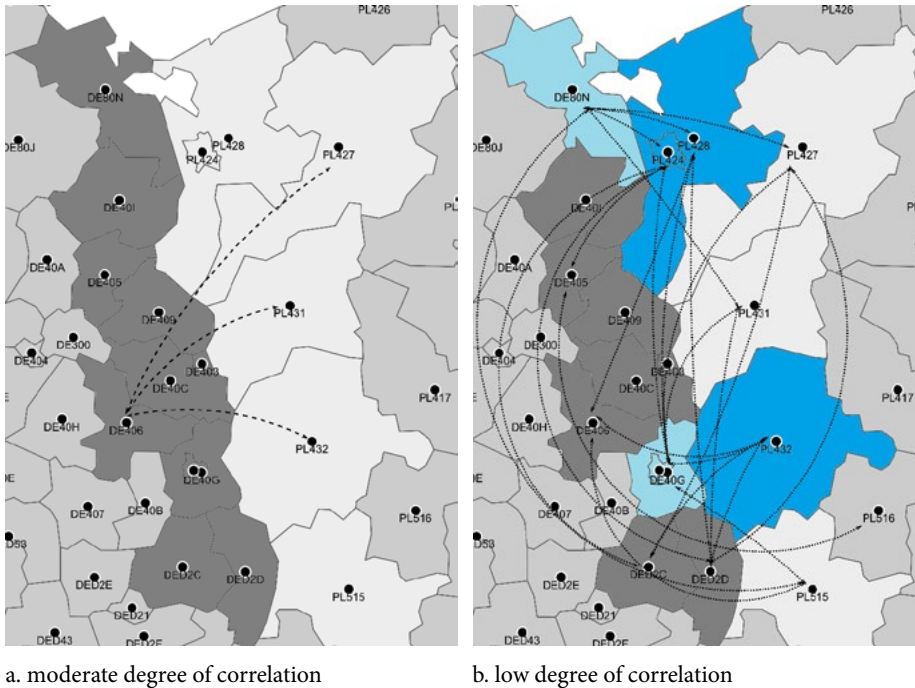
For editorial reasons, the detailed analysis results constitute a separate file, published in Mendeley Data (Wróblewski, 2025). Therefore, the main text refers solely to the selected synchronisation indicators.

The subject literature suggests that linkages between Polish and German border regions are highly common (Dołzbłasz, 2012; Wróblewski, 2021, 2022). However, business cycle convergence between them is rare and, when present, typically weak (Figure 8.2; Wróblewski, 2025). Furthermore, an asymmetry in domestic correlations is evident. Polish regions are closely interconnected, including instances of the highest-degree correlations. In contrast, on the German side of the border, internal interdependencies tend to be weak.

Along the Polish-German borderland, most observed correlations occurred between regions that do not share a direct boundary (Figure 8.2; Wróblewski, 2025). Only four such regional pairs exhibited business cycle convergence, and even then, the correlations between them were merely weak. These cases involved the German region of Vorpommern-Greifswald [DE80N] and both the Szczecin region [PL428] and the city of Szczecin [PL424]. The remaining two were observed between the Zielona Góra region [PL432] and the German regions of Spree-Neiße [DE40G] and Görlitz [DED2D]. This pattern supports

¹ Based on the available data, the widest possible time frame was adopted.

the hypothesis that cross-border economic ties are not necessarily concentrated in regions directly adjacent to national borders but rather tend to occur between more distant areas. This finding somewhat contradicts the prevailing depiction of cross-border cooperation in Polish-German border regions as presented in the literature.



a. moderate degree of correlation

b. low degree of correlation

Note: dark grey – German border regions; light grey – Polish border regions; shade of blue – correlated border regions that share a direct boundary.

Figure 8.2. Degrees of correlation of economic fluctuations in the Polish-German borderland

Source: own elaboration.

Nevertheless, the synchronisation of business cycle fluctuations in the Polish-German borderland is generally weak. Among all observed correlations, only three were of moderate strength. These were recorded between the German region of Dahme-Spreewald [DE406] and three Polish regions: Zielona Góra [PL432], Gorzów [PL431], and Szczecinek-Pyrzyce [PL427].

Low-intensity correlations were predominant. The highest correlation value was observed between the city of Szczecin [PL424] and the German region of Dahme-Spreewald [DE406] (0.700). In contrast, the weakest business cycle

convergence in the Polish-German borderland occurred between the Szczecinek-Pyrzyce region [PL427] and the Bautzen region [DED2C].

Among Polish border regions, the city of Szczecin [PL424] exhibited the most frequent correlations with German regions, occurring six times. The Szczecinek-Pyrzyce region [PL427] displayed cross-border business cycle interdependencies five times. Similarly, the Szczecin region [PL428] and other Polish border regions – Gorzów [PL431], Jelenia Góra [PL515], and Zielona Góra [PL432] – were each linked to the economies of four German regions.

On the German side, the pattern seemed more diverse. Some regions showed no convergence with Polish regions (Uckermark [DE40I], Märkisch-Oderland [DE409], Oder-Spree [DE40C], Frankfurt (Oder) (Kreisfreie Stadt) [DE403], and Cottbus (Kreisfreie Stadt) [DE402]), while others exhibited only rare and weak correlations (Barnim [DE405], Bautzen [DED2C], and Görlitz [DED2D]). Particularly noteworthy is the case of Frankfurt (Oder) (Kreisfreie Stadt) [DE403]. The literature frequently describes this region as being strongly connected to those on the Polish side of the border (Dołzbłasz, 2012). However, the present findings, as well as own research to date (Wróblewski, 2022), appear to contradict this claim.

Among German regions, cross-border correlations were most frequently observed in Dahme-Spreewald [DE406] and Spree-Neiße [DE40G], both of which displayed interdependencies with six Polish regions. Slightly less frequent, but still notable, were the cross-border correlations for Vorpommern-Greifswald [DE80N] and Görlitz [DED2D], each of which was linked to five Polish regions.

Conclusions

Territorial cooperation within the EU is a key element of regional policy, contributing to social, economic, and territorial cohesion. It enables regional and local authorities to address common challenges and strengthen various types of relationships, including socio-economic ties.

Financial support from EU funds is crucial for the proper development of territorial cooperation. This is because local governments' own resources are often insufficient to undertake activities beyond their statutory responsibilities, with cross-border cooperation falling into this category. The EU supports such initiatives both along the internal and external borders of its Member States. Examples of such programmes include Phare and successive editions of Interreg under ETC.

The literature indicates that when engaging in cross-border cooperation, local governments in the EU tend to do so primarily with entities located in close proximity to national borders. Consequently, border municipalities and

regions often develop cooperation strategies, though not always in a formalised manner. Polish-German border regions are no exception to this tendency. Inter-reg programmes also place particular emphasis on the factor of neighbourhood, i.e. proximity to the border.

From the perspective of border regions, which are often linked by shared historical experiences, cooperation with regions located directly across the border seems only natural. For this reason, the borderland studies literature often refers to national borders as *scars of history*.

However, this approach may fail to account for the needs of the real economy. For instance, the socio-economic interdependencies of border regions are largely driven by market mechanisms rather than mere border proximity. As a result, their economic conditions reflect a complex network of interconnections with other domestic regions, the national economy as a whole, and, to some extent, the economic situation of border regions on the other side of the frontier, albeit not necessarily those in direct proximity.

It follows that policymakers and officials responsible for territorial cooperation in border regions should prioritise the actual economic conditions of regional economies, placing spatial factors somewhat in the background. However, without a clear understanding of real economic linkages, they risk proposing solutions or taking decisions that lack adequate justification. Therefore, assessing cross-border cooperation and interconnections through the lens of business cycle convergence appears to be of paramount importance.

The analysis conducted for the purposes of this study indicates that the economies of Polish-German border regions generally manifest a low degree of business cycle convergence. Moreover, direct economic ties between immediately adjacent regions are rarely observed. Identifying the directions and degree of cyclical fluctuations' convergence may thus enable policymakers and officials at various levels to better tailor territorial cooperation projects and strategies to the actual needs of their respective regions.

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