

AAG 2024
HONOLULU | APRIL 16-20



AAG

The Process of Development of the Inner Periphery in Poland in the Period of Increasing Development turbulence: Trends and Recommendations

Maciej Pietrzykowski, Paweł Churski,

Czesław Adamiak, Anna Dubownik, Barbara Szyda



Agenda

- The limited effectiveness of Cohesion Policy
- Inner peripheries in terms of spatial inequalities
- The Tiperico project – Objectives, Phases and Outcomes
- Development Trends and Recommendations for Cohesion Policy (Based on Qualitative Research Results)



AAG 2024
HONOLULU | APRIL 16-20

The Limited Effectiveness of Cohesion Policy

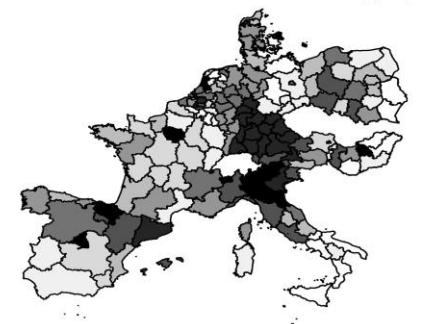


Spatial Inequalities, Economic Growth and Cohesion

Human activity is never evenly distributed in space. The poles of growth and stagnation are a common feature of the economic geography of Europe and the world. **Europe's leading regions have on average two- or three-times higher GDP per capita than the economically weakest regions located within the same country.**

Persistent inequalities directly impact the possibilities (opportunities) of residents and, consequently, the prosperity of less developed regions, leading to greater poverty and emigration. This leads to underutilization of the potential and the creation of "low growth traps" and limits the entire country's growth and economic development. Increasingly, **spatial disparities threaten social and political cohesion** as populism feeds on actual and perceived inequality of opportunity across geographies (Iammarino et al., 2017; Rodríguez-Pose, 2018; McCann, 2019; McKinnon et al., 2022).

Map O.1. Distribution of GDP per capita (PPS) across the EU at NUTS-3 level



Source: Eurostat, za <https://doi.org/10.1016/j.polgeo.2023.102903>

OECD Regional Outlook 2023

The Longstanding Geography of Inequalities

Health



In OECD countries, travel times to healthcare facilities are obviously much larger – five times larger – in remote rural areas than in cities. This contributes to the fact that close to a third of rural residents in OECD countries reported health problems that prevented them from doing things people their age normally do compared to only a quarter of city residents. Moreover, the gap in the availability of hospital beds per capita between cities and remote regions – which stood at 50% in 2020 – has been increasing since the 2008 Great Financial Crisis. The number of hospital beds per capita in remote regions has fallen on average by 0.7% per year, while increasing in metropolitan regions. Bridging access gaps in places can however be achieved, for instance by offering different types of related services in a single location and expanding digital services such as telemedicine.

Skills & education



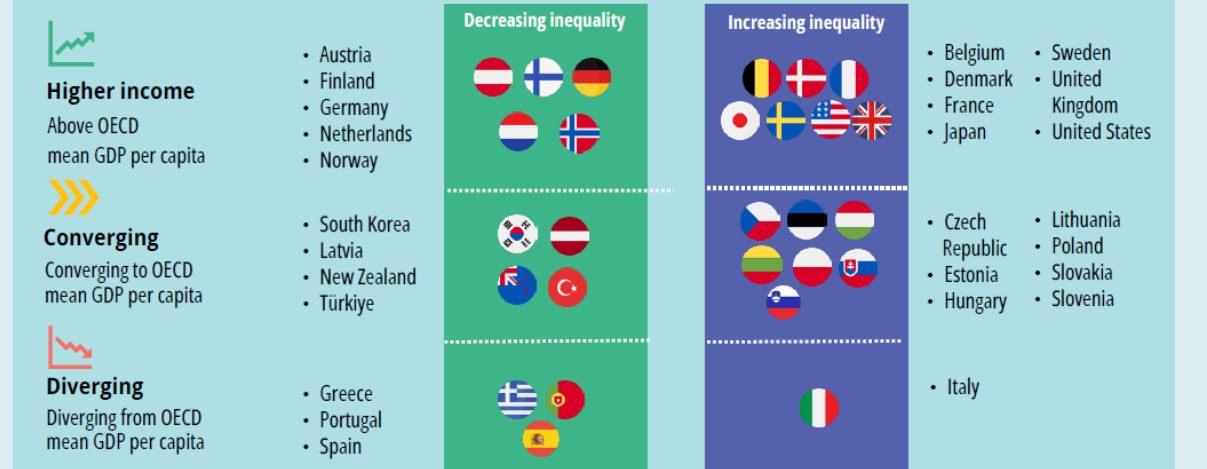
In many rural areas, residents struggle to access good education and training. Students in city schools obtained higher scores in reading than their peers in schools located elsewhere in all but two OECD countries with available data. Investing in quality transport infrastructure, especially public transport, is an important lever to improve access to education in rural communities, but the quality of schools also needs to improve in such areas to provide a platform for future growth, and to boost their attractiveness to potential new residents and investment.

Digital connectivity



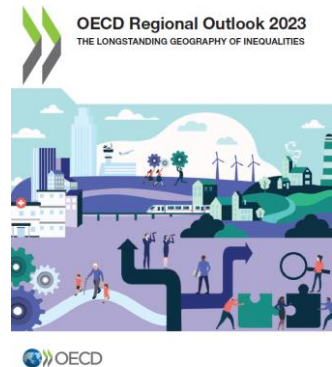
Data from regulators in 26 OECD countries show a persistent rural-urban divide in connectivity speeds: on average a third of households in rural areas do not have access to high-speed broadband and only 7 out of 26 OECD countries have secured access to a high-speed connection for at least 80% of rural households. In Mexico and Canada, people in rural areas have connection speeds 40 percentage points slower than the national average. These gaps in digital access mean these areas will struggle to benefit from new remote working and telemedicine opportunities that could help them compensate for a lack of physical connectivity to jobs and services, and, moreover, stifle entrepreneurship and potential investment.

OECD countries have seen different trends in regional inequalities over the past 20 years



Source: OECD Regional Outlook 2023, <https://www.oecd.org/publications/oecd-regional-outlook-2dafc8cf-en.htm>

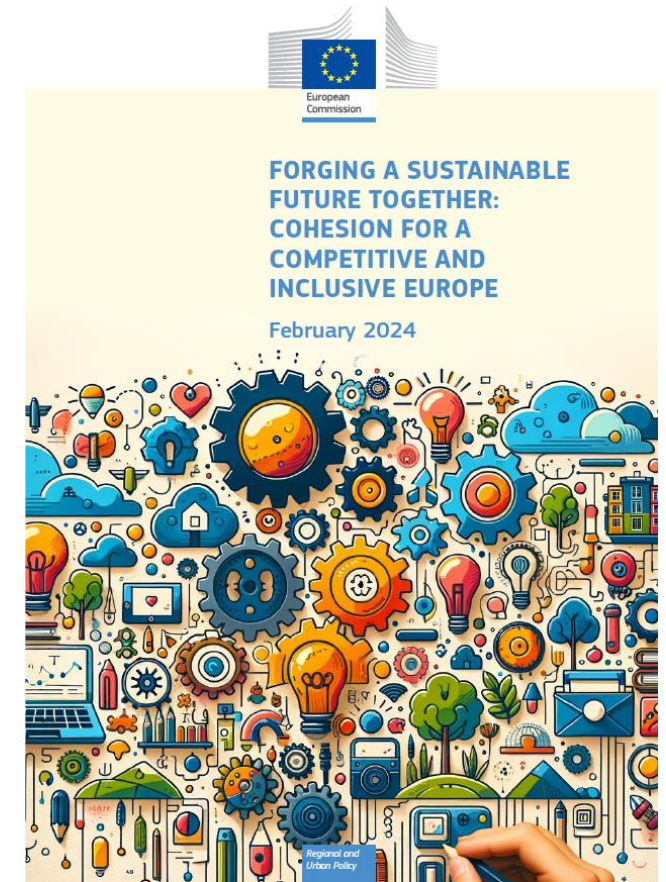
Spatial development differences go beyond economic results measured by GDP and have a multidimensional (intrinsically strongly deterministic) qualitative character, shaping the living conditions of residents.



High-Level Group Report on the Future of Cohesion Policy

February 2024

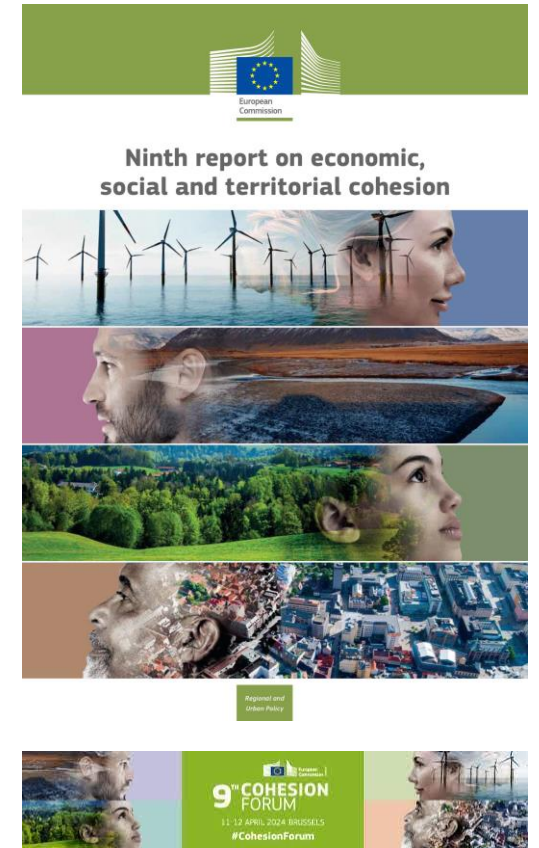
- **Cohesion is more necessary than ever** if the EU is to successfully face its growing long-term structural challenges and next global shocks.
- Cohesion Policy should go **beyond „business as usual“**.
- Cohesion Policy should promote economic convergence and **equality of opportunities for all EU citizens**.
- Cohesion Policy needs to **reject ‘one-size-fits-all’ approaches and become more place- and people-based**. Customized strategies for territories should ensure an effective and inclusive approach to regional development that is sustainable and resilient to a changing global environment. It also requires a people-based approach intervening in places where people are most marginalized.



9th Ninth Report on Economic, Social and Territorial Cohesion

The Commission published the 9th Cohesion Report on 27 March, presenting an assessment of the state of cohesion in the Union. **Cohesion Policy has effectively contributed to convergence between Member States, but the situation at the sub-national level is more complex and requires consideration of the following assumptions:**

- Different regions have **different starting points – and different development paths,**
- Promoting **more balanced territorial development,**
- Partnership, **multilevel governance** and empowerment of stakeholders,
- Promoting **institutional convergence** by addressing existing public governance and administrative capacity shortcomings,
- Enhancing the **effectiveness of Cohesion Policy investments** and promoting in reforms,
- **Better coordination** and coherence with national policies,
- Making **delivery more effective,**
- Reaching long-term objectives – but **with built-in flexibility,** for unforeseen circumstances.



AAG 2024
HONOLULU | APRIL 16-20

Inner Peripheries in Terms of Spatial Inequalities



AAG



The trajectories and challenges
of the development of inner peripheries
in the new conditions of cohesion post SARS-CoV-2

Inner Peripheries in Terms of Spatial Inequalities

remote areas
(Ardener 1987)
anthropological approach

periphery areas
(Hall et al. 2013)
geographical approach

periphery and semi-periphery
(Connell et al. 2005)
sociological approach

low-growth regions
(European Commission 2015)

lagging regions
(European Commission 2015)

low-income regions
(European Commission 2015)

left behind places
(McCann 2019)

INNER PERIPHERIES
(Servillo et al. 2016)

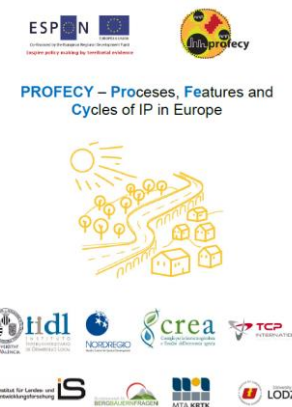
left behind people and places
(Dijkstra et al. 2020)



Co-financed by the European Regional Development Fund
Inspire Policy Making with Territorial Evidence

places that don't matter
(Rodríguez-Pose 2018)

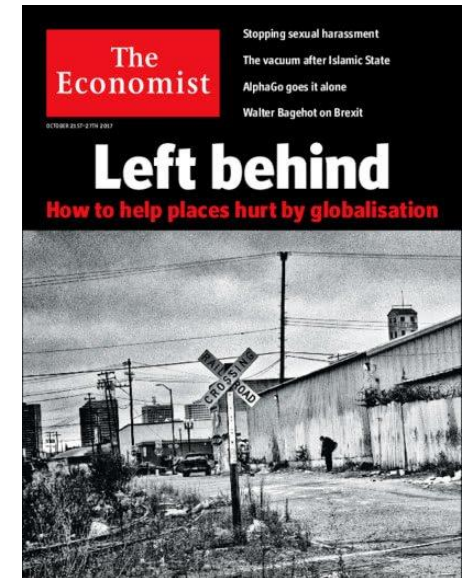
places as loci of discontent
(Florida 2021; Martin 2021)



Inner Peripheries in Terms of Spatial Inequalities

Concepts of „**left behind**“ places are **multidimensional** and go beyond economic issues to include social, demographic, political and cultural issues. Key identifying features include (Hall et al. 2013; Servillo et al. 2016; Rodríguez-Pose 2018; McCann 2019; Dijkstra et al. 2020; Florida 2021; Martin 2021):

- Relative economic underperformance and decline, expressed in below-average wages, employment and productivity;
- Lower level of educational qualifications and skills;
- Higher levels of poverty and disadvantage (compared to the national average);
- External migration, demographic aging and contraction;
- Poor health;
- Limited connectivity and investment in social and economic infrastructure;
- Limited provision of services;
- Withdrawal from politics, neglect and dissatisfaction;
- Lack of civic property and public facilities



Not all of these specific features and consequences will be visible in every „left behind“ place !

Inner Peripheries in Terms of Spatial Inequalities

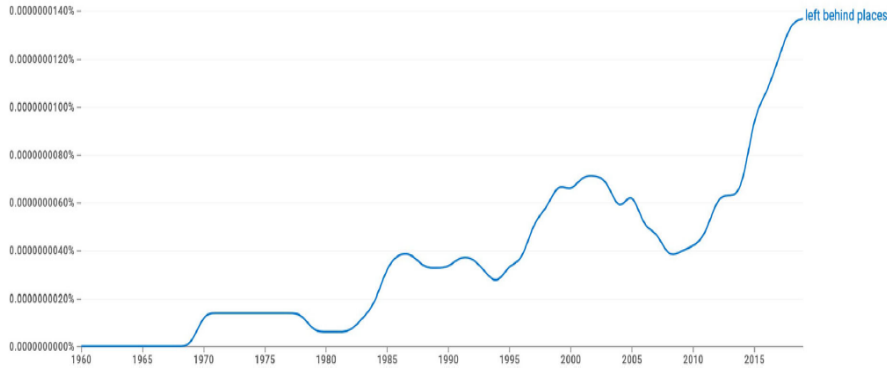


Figure 1. 'Left behind places' term frequency of use, 1890–2021.
Source: Google Ngram.

Table 1. Potential dimensions of 'left behind places'.

Dimension	Examples
Economic	Falling real wages Limited and/or poor-quality opportunities for training and/or employment Limited wealth
Social	Lack of social and/or spatial mobility Limited bridging social capital (but high levels of bonding social capital) High levels of attachment and belonging to place Low levels of civic participation
Environmental	Degraded physical environments Poor air quality
Political	Neglect by mainstream political parties and politicians Disengagement from representative democracy Populist, nativist and/or nationalist beliefs and views
Institutional and governance	Absent or weak local leadership Limited decentralized powers, resources, and/or capacity Lack of political voice
Cultural	Inferior, subordinate, common, proletarian, or plebeian worldviews Disconnection from and/or rejection of dominant attitudes/values Backward-looking, behind the zeitgeist outlooks
Infrastructural	Lack of public investment Limited and/or uneven access to public services Unequal provision of infrastructure systems and services

Source: Authors' research.

Regional Studies

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/cres20>

'Left behind places': a geographical etymology

Andy Pike, Vincent Béal, Nicolas Cauchi-Duval, Rachel Franklin, Nadir Kinossian, Thilo Lang, Tim Leibert, Danny MacKinnon, Max Rousseau, Jeroen Royer, Loris Servillo, John Tomaney & Sanne Velthuis

To cite this article: Andy Pike, Vincent Béal, Nicolas Cauchi-Duval, Rachel Franklin, Nadir Kinossian, Thilo Lang, Tim Leibert, Danny MacKinnon, Max Rousseau, Jeroen Royer, Loris Servillo, John Tomaney & Sanne Velthuis (09 Feb 2023): 'Left behind places': a geographical etymology, *Regional Studies*, DOI: [10.1080/00343404.2023.2167972](https://doi.org/10.1080/00343404.2023.2167972)

To link to this article: <https://doi.org/10.1080/00343404.2023.2167972>

© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

Published online: 09 Feb 2023.

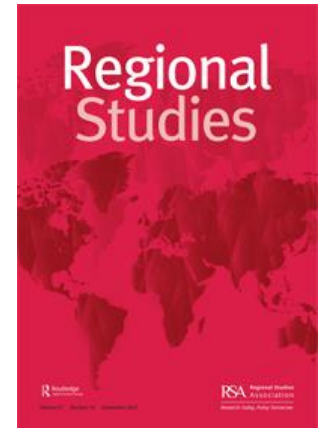
Submit your article to this journal

Article views: 7818

View related articles

View Crossmark data

Citing articles: 15 View citing articles



The multi-faceted nature of places left behind draws even more attention to the challenges of effectively and efficiently reducing geographic inequalities and strengthening social and spatial justice.

Pike A., Béal V., Cauchi-Duval N., Franklin, R., Kinossian, N., Lang, T., Leibert, T., MacKinnon, D., Rousseau, M., Royer, J., Servillo, L., Tomaney, J., and Velthuis, S. (2023) 'Left behind' places: a geographical etymology. *Regional Studies*. <https://doi.org/10.1080/00343404.2023.2167972>

Inner Peripheries in Terms of Spatial Inequalities

Peripheralness should be considered taking into account both **spatial and non-spatial (relational) remoteness**.

The concept of inner periphery draws **more attention to relational distance (disconnection)**.

The inner periphery is characterized by (ESPON, 2017) :

- Worse overall performance,
- Lower level of development,
- Poorer access to public services,
- Worse quality of life of the population
- Than, in neighboring territories.



AAG 2024
HONOLULU | APRIL 16-20

The Tiperico Project – Objectives, Phases and Outcomes



Tiperico objectives

The objective of the project is to **identify the regularities of changes to the socio-economic development in selected inner peripheries in Poland with special attention given to their sensitivity and resilience to the consequences of the SARS-CoV-2 crisis**, and the resulting recommendations for the changes in the development policy interventions. The main goal of the project has been broken down to specific objectives of cognitive, methodological and application-related nature.

The application-related goal of the project refers to recommendations on the **direction and ways of making developmental intervention (including the choice of instruments) in inner peripheries in Poland** with special emphasis placed on the importance of the local cities to creating conditions for networking and diffusion of developmental processes.

Inner Peripheries for us

In our way of thinking, we understand the internal peripheries as areas with dormant or lost development potentials, due to their social or economic peripherality, caused in particular by low communication accessibility and a relatively long-time distance to economic centers, a limited range of functional connections and the lack of abilities or difficulties in establishing them permanently.

Their characteristic features are:

- Relatively low efficiency of the territorial socio-economic system,
- Relatively low access to public goods and services,
- Relatively low quality of life (wellbeing).



Tiperico Phases

Delimitation and typology of the inner peripheries among the new system of functional urban areas in Poland

Case studies of four selected inner peripheral functional urban areas and their main cities

Development of systemic tool for monitoring the dynamics of transformations of the inner peripheries during crisis

Delimitation and Typology of Inner Peripheries in Poland in the FUA System

413 Functional Urban Areas

FUA consists of **municipalities (in PL „gminas”)** (2477 **municipalities** – 1st level administrative division), including one **central city** and several **subordinate municipalities**.

Division of municipalities is **disjunctive** and **exhaustive**, FUAs are spatially **continuous**.

Municipalities are assigned to FUA based on functional relations measured by human mobility flows: **migration turnover** and **commuting to work** between a municipality and FUA central city.

FUAs cannot be excessively large. Time distance between each municipality and its FUA capital city **does not exceed 1h drive** in peak hours (1.5h in FUAs of cities >500k).



Delimitation and Typology of Inner Peripheries in Poland in the FUA System

1. Initial dataset on FUA

15 DATA SOURCES

47 INDICATORS

26 ASPECTS

9 DIMENSIONS

- Accessibility
- Economy
- Finances
- Demography
- Housing
- Health and security
- Education
- Leisure and social activity
- Ecosystem services

2. Elimination of the number of variable

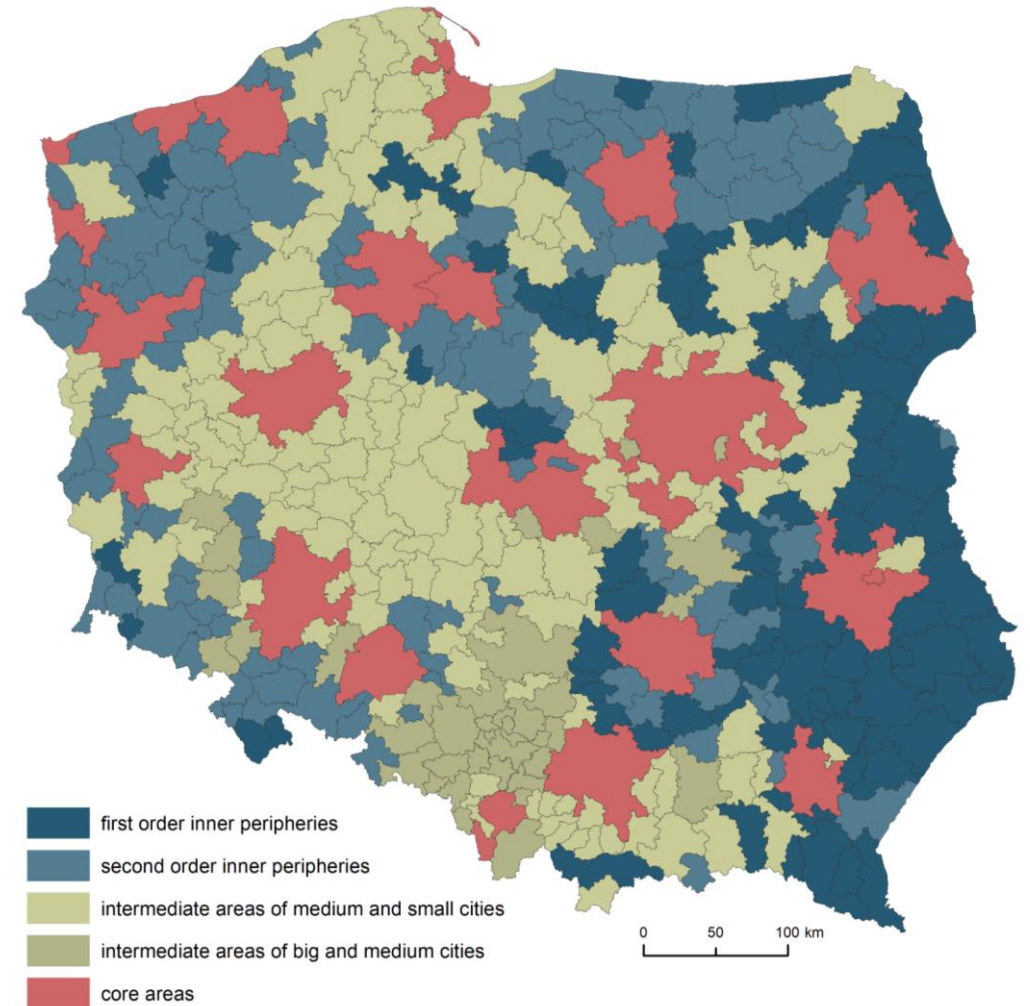
1. Elimination of excessive variables (correlated to other variable(s) in the dataset).
2. Keeping variables representing each of 9 dimensions.

3. Groupin FUAs with using Gaussian Mixtures Modelv (GMM)

- Distance based probabilistic clustering model, special case of Expectation Maximalisation model.
- Requires pre-specified numer of clusters (informed by Bayesian Information Criterion). We chose **5-cluster solution**

Delimitation and typology of inner peripheries in Poland in the FUA system

Class	Number of FUAs	Avg. personal income (thous. PLN)	Avg. new apartments per 1000 inh.	Avg. intermodal transport accessibility indicator	Avg. natural growth (per 1000 inh.)
Core areas	25	43.8	8.06	33.1	-1.05
Transition areas of large and middle cities	39	39.5	2.87	52.7	-3.60
Transition areas of middle and small cities	141	35.2	4.19	32.3	-0.34
Second order inner peripheries	112	30.0	2.29	21.7	-3.50
First order inner peripheries	96	26.7	2.26	20.6	-3.48



Case Studies of four Selected Inner Peripheral FUAs

1. 4 case study areas:

- 2 of 1st order inner peripheries,
- 2 of 2nd order inner peripheries.

2. Typical values of peripherality indicators:

- 1st order inner peripheries – lowest quartile,
- 2nd order inner peripheries – 2nd quartile.

3. From different regions of the country, representative for large areas of inner peripheries in Poland.

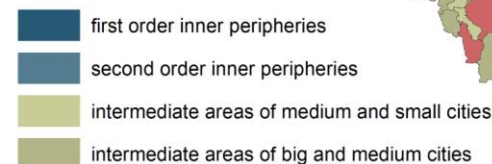
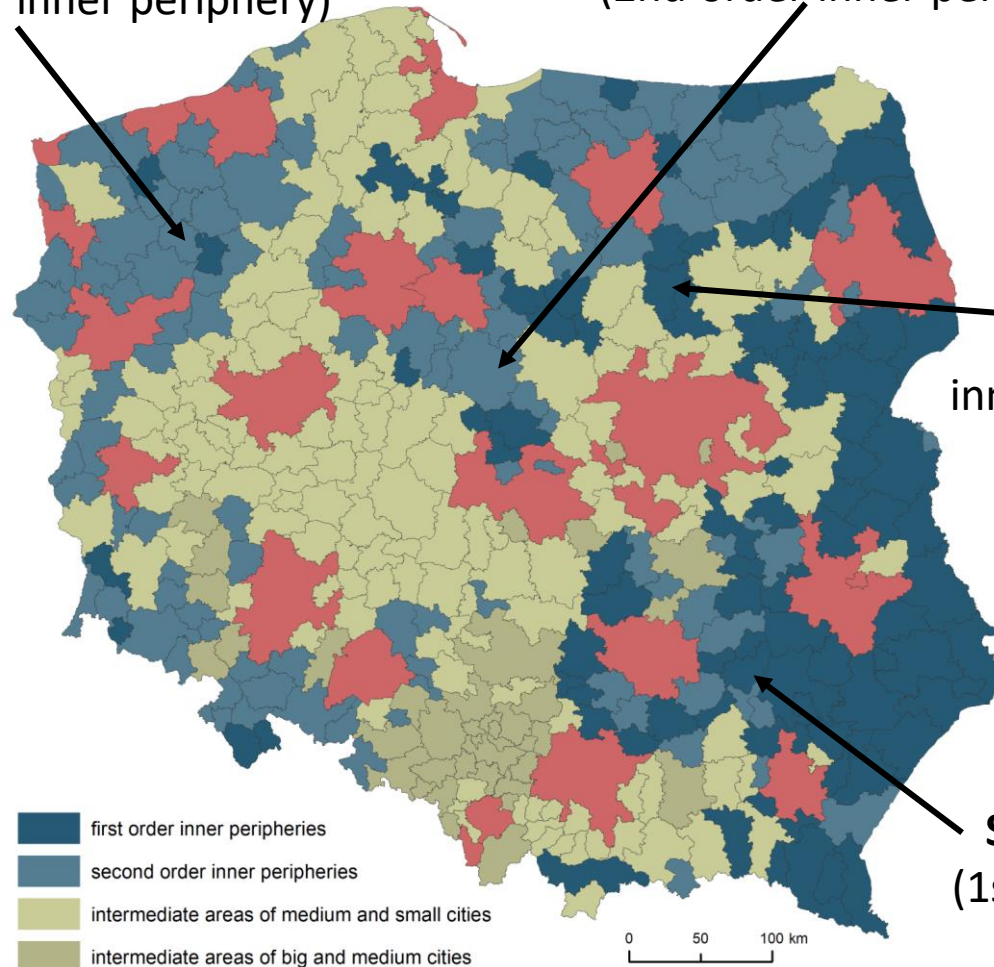
4. Diverse size of central city.

Drawsko Pomorskie
(2nd order inner periphery)

Włocławek
(2nd order inner periphery)

Przasnysz
(1st order inner periphery)

Sandomierz
(1st order inner periphery)



AAG 2024
HONOLULU | APRIL 16-20

Trends of Development and Recommendation for the Cohesion Policy

(based on qualitative research results)



TIPERICO Project: Qualitative Research

1. **8 Focus Group Interviews (FGI)** - were conducted in each of the examined Functional Urban Areas (FUAs), with participation from entrepreneurs, activists, local authorities, and non-governmental organization representatives. The number of FGIs conducted varied depending on the size of the FUA: 3 in FUA Włocławek, 2 in FUA Przasnysz, 2 in FUA Sandomierz, and 1 in FUA Drawsko Pomorskie.
2. **4 Individual In-Depth Interviews (IDI)** - were also conducted in each of the examined FUAs with either the presidents or mayors of the urban centers that serve as the capitals of the FUAs.
3. The FGIs and IDIs covered three main topics: **accessibility, economy, the inhabitants and living conditions**. The discussions aimed to identify and evaluate developmental changes within these areas, especially focusing on the period **following the COVID-19 pandemic**. Respondents were also queried about effective practices in addressing identified **developmental challenges**.



Accessibility

Trends of development

- Changes within public transportation organizations are enhancing internal accessibility.
- The expansion of mobile services by institutions and entrepreneurs is improving internal accessibility.
- The increased use of individual transportation is improving both internal and external accessibility.
- Rising exclusion is limiting external accessibility.

Changes as a result of development shocks (Covid-19, Russia's aggression against Ukraine)

- Deterioration of accessibility and an increase in communicational exclusion have occurred post-COVID.
- Transportation costs have increased due to the consequences of the energy crisis.

Recommendations

- **Restore trust and promote the use of public transportation.**
- Integrate tariffs, schedules, and **coordinate public transportation providers.**
- **Organize on-demand public transport** for workplace clusters and individual resident needs.
- Create conditions that **favor individual mobility options** like walking, cycling, and other personal transport.
- **Enhance local government employees'** qualifications to implement changes in public transport organization.
- Increase accessibility and the ability to **utilize information technology.**
- **Combat digital exclusion** the elderly.



Public transportation organizations are evolving to better facilitate access within networks, while mobile services are being expanded to further improve internal accessibility.

The rise in the use of personal transportation modes like walking and cycling is increasing accessibility, though challenges in external accessibility remain due to growing exclusion.

The post-pandemic landscape has seen a decline in accessibility and a rise in communicational exclusion, compounded by increased transportation costs due to the energy crisis.

There is a concerted effort to restore public trust in transportation, integrate service tariffs, and coordinate schedules among providers, as well as to customize transportation to meet the varied needs of residents and workspaces.

Recommendations emphasize the need to upgrade the qualifications of government employees managing transport changes, improve IT accessibility, and address the digital divide, particularly among older adults..

The ACCESSIBILITY Highlights



Economy

Trends of development

- The increasing significance of endogenous development and functional relationships in shaping economic situations.
- The constraints of competitive investment area development within individual municipal boundaries.
- Transformations in the local labor market, leading to heightened mismatches.
- The escalating challenges posed by energy transformation.

Changes as a result of development shocks (Covid-19, Russia's aggression against Ukraine)

- Varied economic resilience across scales of entities and sectors.
- Modifications in value chains due to development shocks.
- Increasing internal development disparities within functional areas, underscoring the need for place-based policies.

Recommendations

- Shaping an **integrated supra-local offer** for residents and entrepreneurs utilizing **the territorial capital resources of the functional area**.
- Implementing an **active supralocal labor market policy**.
- **Diversifying economic activities to enhance resilience**.
- Developing and enacting a territorial action program for **decarbonization, efficiency improvement, and energy self-sufficiency**.
- Enhancing **business environment services** and managerial competencies to **better withstand economic crises**.
- Institutionalizing supra-local cooperation through the **Supralocal Development Strategy**.



Endogenous development is increasingly central to economic structuring, alongside the vital roles of functional interrelationships.

Competitive investment development faces boundaries within municipal limits, causing challenges.

Local labour markets are undergoing transformations that result in significant job-skill mismatches.

Energy sector transformation presents escalating challenges, while global crises like COVID-19 and geopolitical conflicts lead to varied economic resilience and value chain alterations.

To combat these challenges, recommendations include leveraging local resources, diversifying economies, implementing local labor policies, enhancing energy and managerial strategies, and fostering supra-local cooperation.

The ECONOMY Highlights





Residents & living conditions

Trends of development	Recommendations
-----------------------	-----------------

- Increasing stratification of residents' needs.
- Worsening demographic trends.
- Intensifying dysfunctions in the housing market.
- Variability in activity and social integration.
- Opportunities to enhance living standards and conditions for residents by leveraging evolving developmental conditions.

Changes as a result of development shocks (Covid-19, Russia's aggression against Ukraine)

- A heightened demand for healthcare security.
- An expanded use of mobile technology to improve public service accessibility.
- Varied experiences with the adoption of remote work.
- An increase in social engagement.

- Implementing operational principles in socio-economic and spatial planning to ensure universal access to a **basic need's basket** within socially acceptable timeframes, termed the **"spatial minimum."**
- The need to develop and implement a **supra-local family policy.**
- A **supra-local housing policy** aimed at diversifying offerings, tailored to the varied needs of the population.
- **Guaranteeing access to fundamental medical procedures** and fostering conditions for **broadening the availability of highly specialized medical services at a supra-local level.**
- Developing infrastructure for **civil defense and population protection.**



There's a growing hierarchy in residents' needs and notable housing market dysfunctions.

Demographic trends are on the decline, indicating potential long-term socio-economic issues.

Development shocks have increased the demand for healthcare security and the use of mobile technology in public services.

There's been a diversification in social activity and the experience of remote work due to recent global events.

Suggested strategies include creating a spatial minimum for basic needs access, supra-local policies for family and housing, enhanced medical services, and improved civil defense infrastructure.

The Residents & living conditions Highlights



Final Recommendations for Cohesion Policy Addressed to Inner Peripheries

OPPORTUNITIES AND CHALLENGES

RECOMENDATIONS FOR INNER PERIPHERIES

ACCESSIBILITY

Restoring the efficiency of public transport

Fare integration, scheduling, and organizational coordination of public transport operators

On-demand public transportation organization for workplace clusters and individual residents' needs

The need for the development of mobile services improving internal and external accessibility

Modernization of the IT network infrastructure ensuring access to high-speed Internet

Development of mobile technology utilization in public services

ECONOMY

Supporting the acquisition of new investors conducive to diversifying the local economy

Preparation of investment areas along with educational offerings tailored to the needs of new investors

Strengthening the resilience of the local economy through the development of future industries and RIS

The need for coordinating actions in the field of green (including energy) and digital transformation

Supporting socio-economic development only in line with the principles of green and digital transformation

The necessity of integrating actions for green and digital transformation at the supralocal level

Public Transport Revamp: Streamline public transport operations by integrating fares, optimizing schedules, and improving organizational coordination to restore system efficiency.

Mobile Services Enhancement: Invest in the development of mobile services to enhance both internal and external accessibility for residents..

Investor Attraction: Create conducive conditions for attracting new investors, including preparing investment areas and tailoring educational offerings to meet investor needs, thereby diversifying the local economy..

Infrastructure Modernization: Modernize the IT infrastructure to provide high-speed internet access, fostering the use of mobile technology in public services.

Green and Digital Synergy: Coordinate actions in green and digital transformation fields to support socio-economic development, strengthen the local economy, and integrate these efforts at the supra-local level.

Highlights

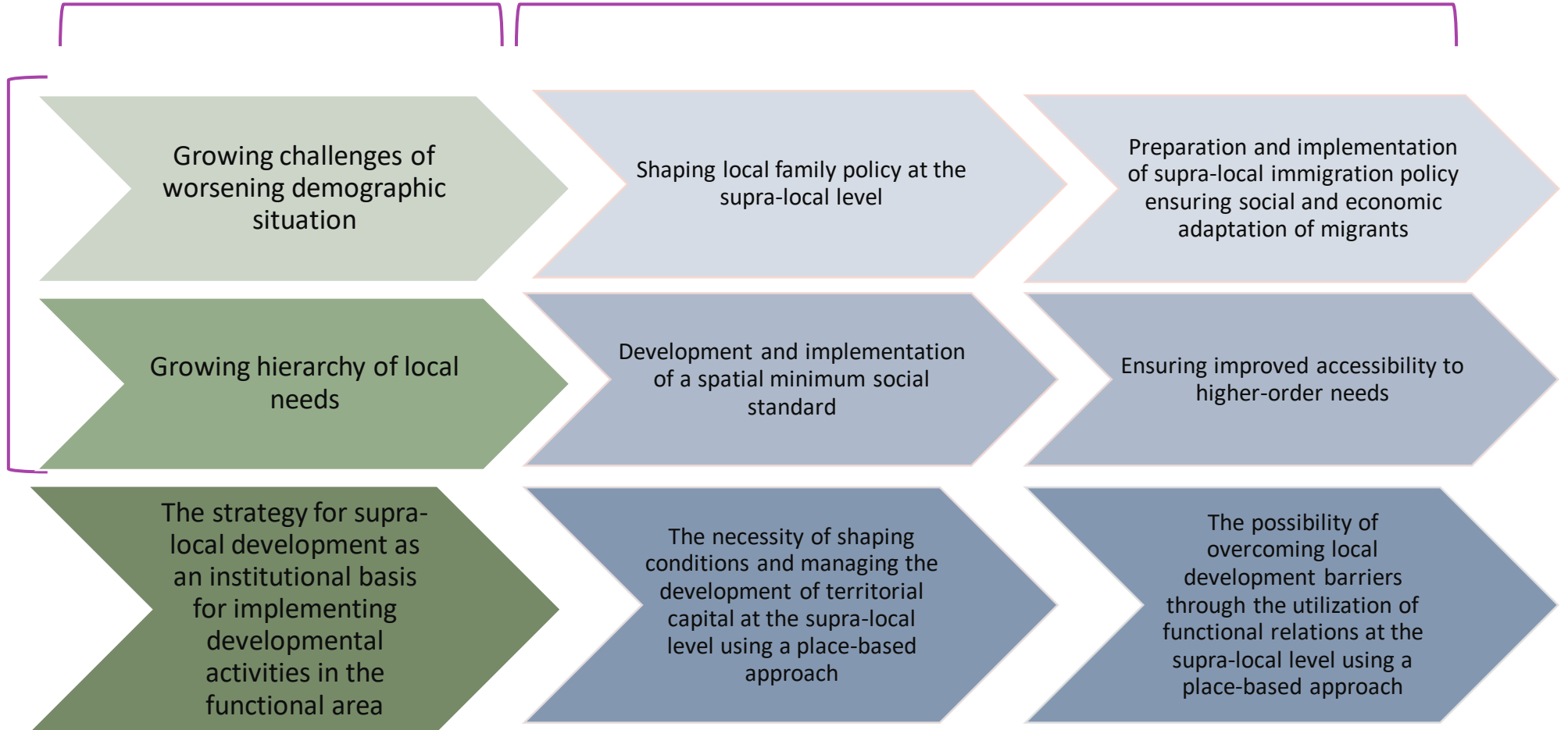


Final Recommendations for Cohesion Policy Addressed to Inner Peripheries

OPPORTUNITIES AND CHALLENGES

RECOMENDATIONS FOR INNER PERIPHERIES

**RESIDENTS
& QUALITY
OF LIFE**



Demographic Strategy: Address the growing demographic challenges by shaping family policies and immigration strategies at the supra-local level to support social and economic integration.

Local Needs and Accessibility: Tackle the increasing hierarchy of local needs by developing and implementing a spatial minimum social standard and ensuring better access to higher-order needs.

Institutional Framework for Development: Emphasize the strategy for supra-local development as an essential institutional foundation for carrying out development activities within the functional area.

Territorial Capital Management: Recognize the need to shape conditions and manage territorial capital development at the supra-local level with a place-based approach.

Overcoming Development Barriers: Explore the potential to overcome local development barriers by leveraging functional relationships at the supra-local level, utilizing a place-based approach for more cohesive growth.

Highlights



AAG 2024

HONOLULU | APRIL 16-20

Next steps

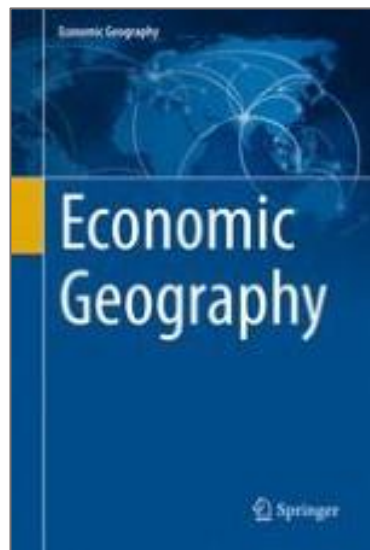


AAG





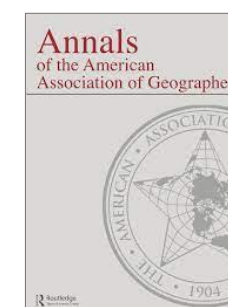
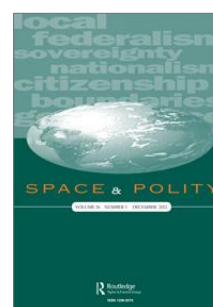
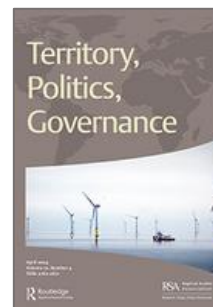
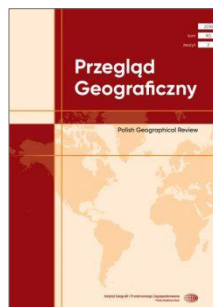
Dissemination of results



A new book in the Economic Geography series
by SPRINGER publishing house:

***Churski P., Adamiak C., Dubownik A., Pietrzykowski M., Szyda B., 2025.
Inner Peripheries in the New Conditions of Cohesion post-SARS-CoV-2
- recommendations for European Cohesion Policy. Economic Geography. Springer.***

and articles in journals e.g.:



AAG 2024
HONOLULU | APRIL 16-20



AAG

The Process of Development of the Inner Periphery
in Poland in the Period of Increasing Development turbulence:
Trends and Recommendations

Maciej Pietrzykowski, Paweł Churski,
Czesław Adamiak, Anna Dubownik, Barbara Szyda

Thank You for Your Attention



Set of 47 indicators to delimit and classify peripheral FUAs

Dimension	Indicator	Data source	Included in grouping
Accessibility	Average time travel car from all gminas to FUA central city	Google Maps Distance Matrix API	Included
Accessibility	Average distance of pupil homes to primary schools	Śleszyński, Statistics Poland	
Accessibility	Passanger cars per 1,000 inhabitants	Adam Mickiewicz University	Included
Accessibility	Intermodal transport accessibiliy indicator	Komornicki, IGIPZ PAN	Included
Accessibility	Car travel time from FUA central city to nearest regional city	Komornicki, IGIPZ PAN	
Accessibility	Car travel time from FUA central city to nearest 100k+ city	Komornicki, IGIPZ PAN	Included
Accessibility	Number of public transport connections from FUA central city to regional city	e-Podroznik.pl	
Accessibility	Share of population with access to broadband internet	Śleszyński, UKE	
Accessibility	Indicator of internet access points without access to broadband	Śleszyński, UKE	Included
Accessibility	Share of population with access to mobile LTE network	Śleszyński, UKE	
Economy	Urbanized area per 1,000 inhabitants	CORINE Land Cover	
Economy	Business environment institutions per 10,000 businesses	Statistics Poland	
Economy	All-year tourist accommodation sites per 1,000 inhabitants	Statistics Poland	Included
Economy	Share of new businesses in creative sector among all new businesses	Statistics Poland	
Economy	Number of businesses per 1,000 population inproductive age	Statistics Poland	
Economy	Number of large (>49 employees) busiesses per 10,000 inhabitants	Statistics Poland	
Economy	Share of unemployed in population in productive age	Statistics Poland	Included
Economy	Share of population in productive age employed as contract workers	Ministry of Finance	
Economy	Share of population in productive age running personal businesses	Ministry of Finance	Included
Finances	Own income of local governments per inhabitant	Statistics Poland	
Finances	Investment expenditures of local governments per inhabitant	Statistics Poland	Included
Finances	Net operational surplus of local governments	Statistics Poland	Included
Finances	Personal income per adult inhabitant	Ministry of Finance	Included
Finances	Businesses income per one taxpayer	Ministry of Finance	
Demographics	Population in post-productive age per 100 inhabitants in productive age	Statistics Poland	Included
Demographics	Share of population in pre-productive age	Statistics Poland	
Demographics	Rate of natural increase per 1000 population	Statistics Poland	Included
Demographics	Net migration increase per 1000 population	Statistics Poland	
Housing	New apartments built per 1000 inhabitants	Statistics Poland	Included
Housing	Share of population with central heating	Statistics Poland	Included
Housing	Share of housing buildings connested to sewerage system	Statistics Poland	
Housing	Apartment area per inhabitant	Statistics Poland	
Health and security	Numer of outpatients using healt care advices per 10,000 population	Statistics Poland	
Health and security	Identified crimes per 10,000 inhabitants	Śleszyński, Police	Included
Health and security	Car accidents and collisions per 10,000 inhabitants	Śleszyński, Police	Included
Education	Places in kindergartens per 1,000 childs 3-6 years old	Statistics Poland	Included
Education	Number of pupils per 1 class in primary schools	Statistics Poland	
Education	Average result of matura exam in mathematics	Central Examination Board	Included
Education	Average result of matura exam in English	Central Examination Board	
Leisure and social activity	Non-governmental organisations per 10,000 inhabitants	National Court Register	
Leisure and social activity	Graduates of courses organised by culture institutions per 10,000 inhabitants	Statistics Poland	Included
Leisure and social activity	Sport and recreation businesses per 10,000 inhabitants	Statistics Poland	
Leisure and social activity	Attendees of sport and cultural events per 10,000 inhabitants	Statistics Poland	
Ecosystem services	Share of population with large (>25 ha) green areas within 1 km of home	Śleszyński	Included
Ecosystem services	Share of protected areas in gmina area	Statistics Poland	
Ecosystem services	Deviation from the norm of atmospheric pollution (mean of BaP, PM10, PM25)	Śleszyński	
Ecosystem services	Number of applications to "Pure Air" programme per 1,000 single-family homes	National Fund for Environmental Protection and Water Management	Included