

Long-term cooperation in the study of cross-border phenomena and problems

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Towards coherent research system for transborder areas

Polish-Ukrainian colaboration

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Agenda

1. Introduction

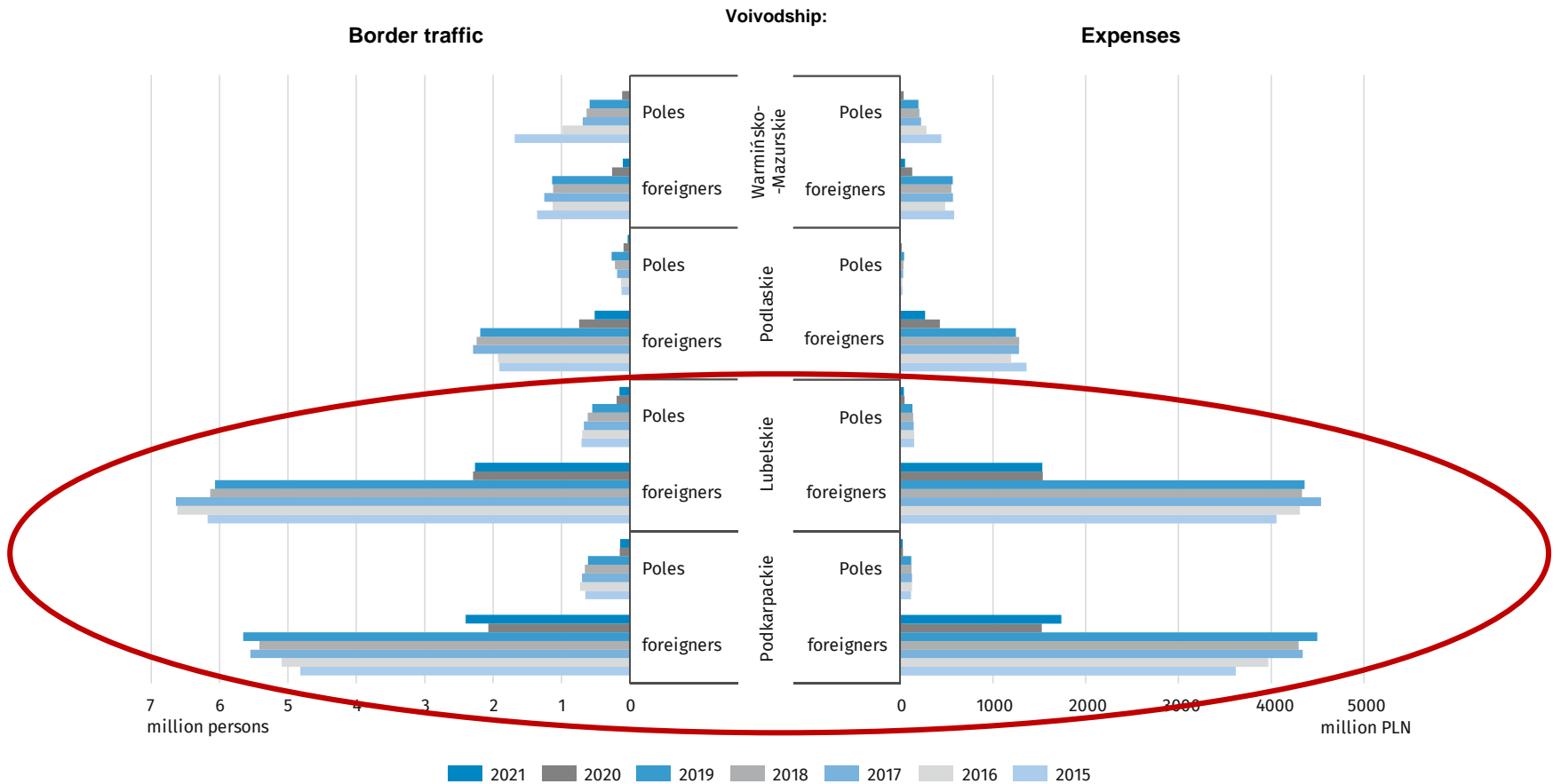
2. Specificity of transborder areas

3. Convergence in transborder areas

4. Conclusions

Cross-border flows

Border traffic of persons (from and to Poland) and expenses of foreigners and Poles crossing the land border in 2015-2021

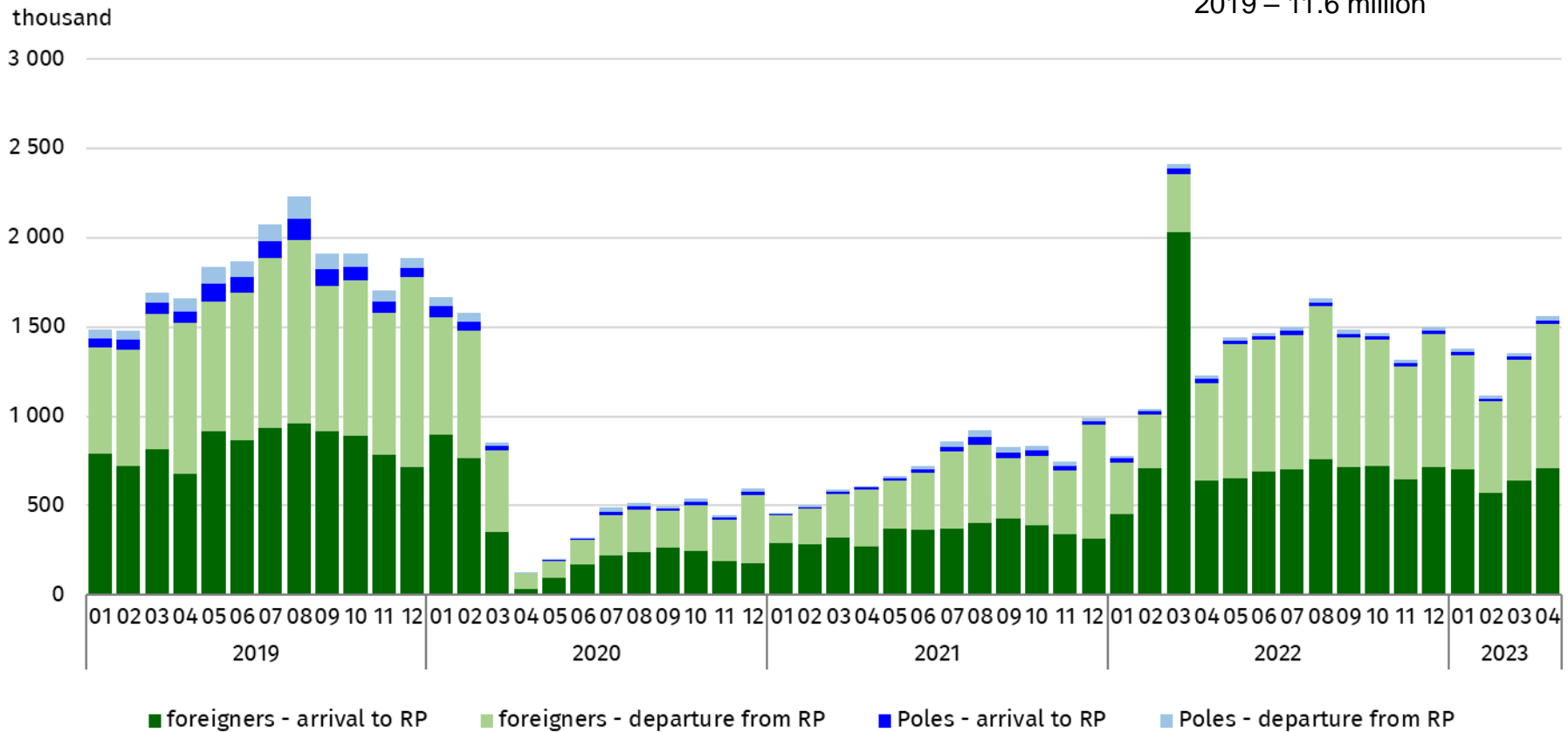


Border Guard data

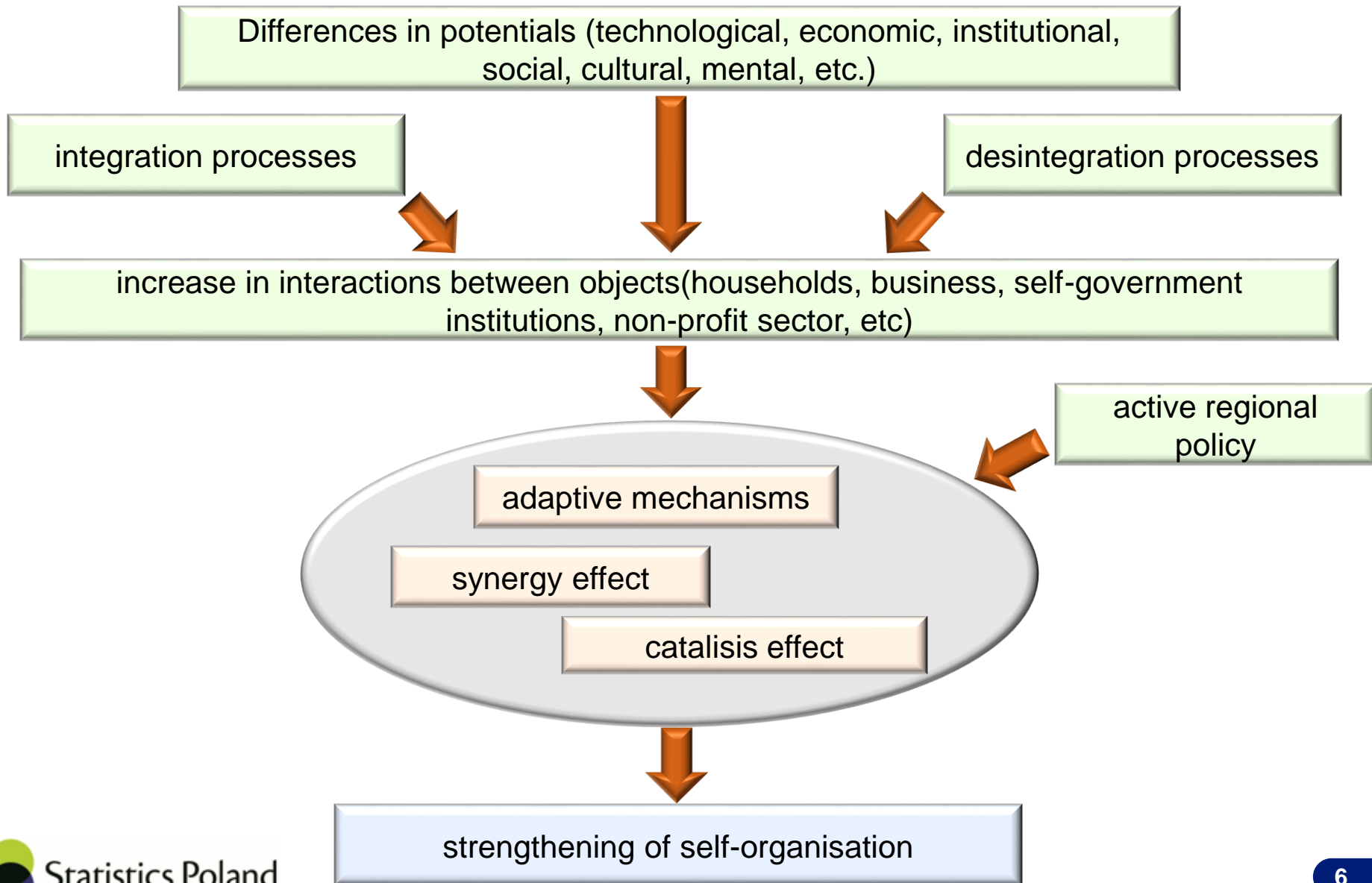
Border traffic on the Polish-Ukrainian border from 24.02 to 31.08.2022

Border traffic from 24.02-31.08

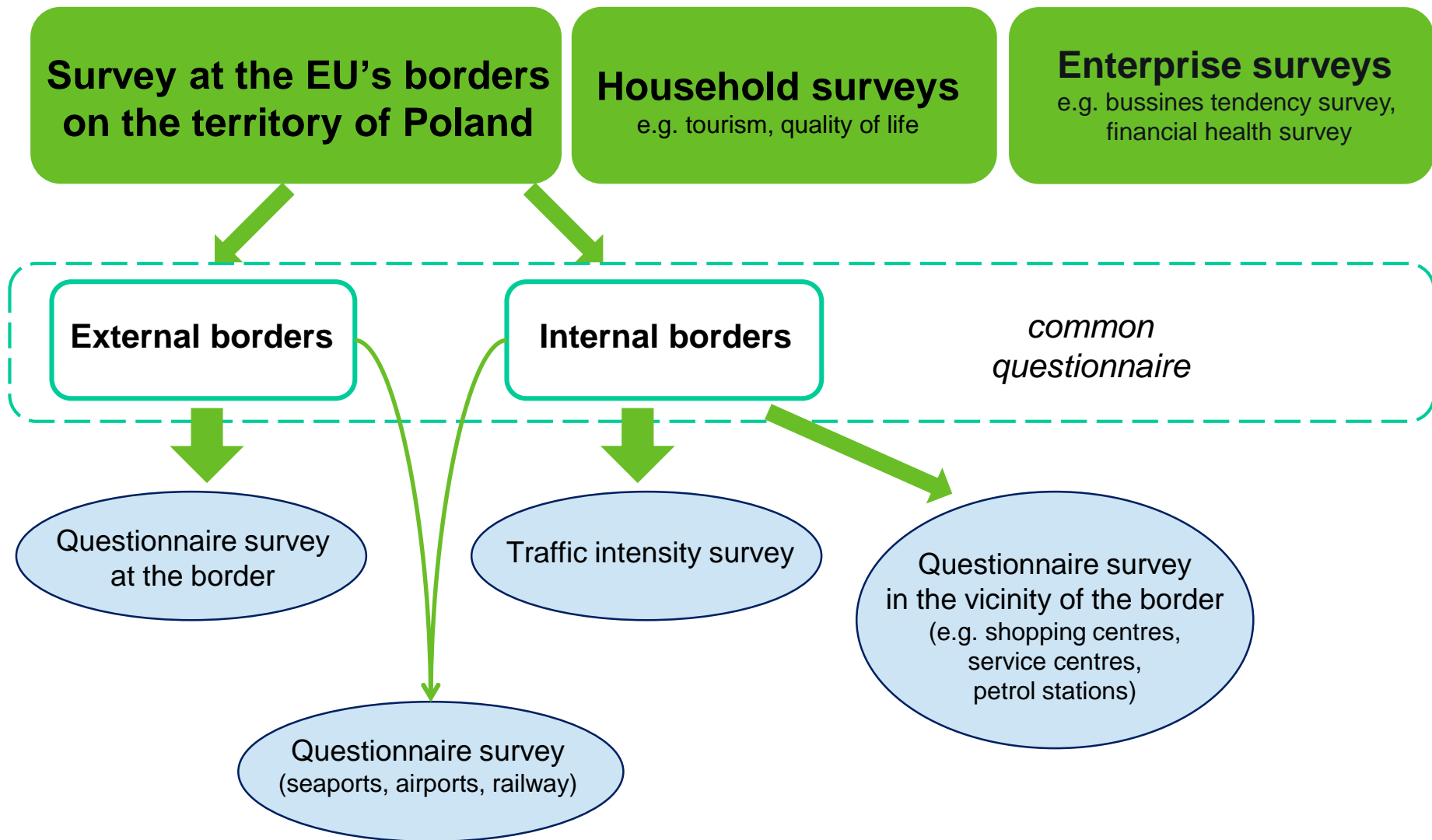
2022 – 10.1 million
 2021 – 6.8 million
 2020 – 2.8 million
 2019 – 11.6 million



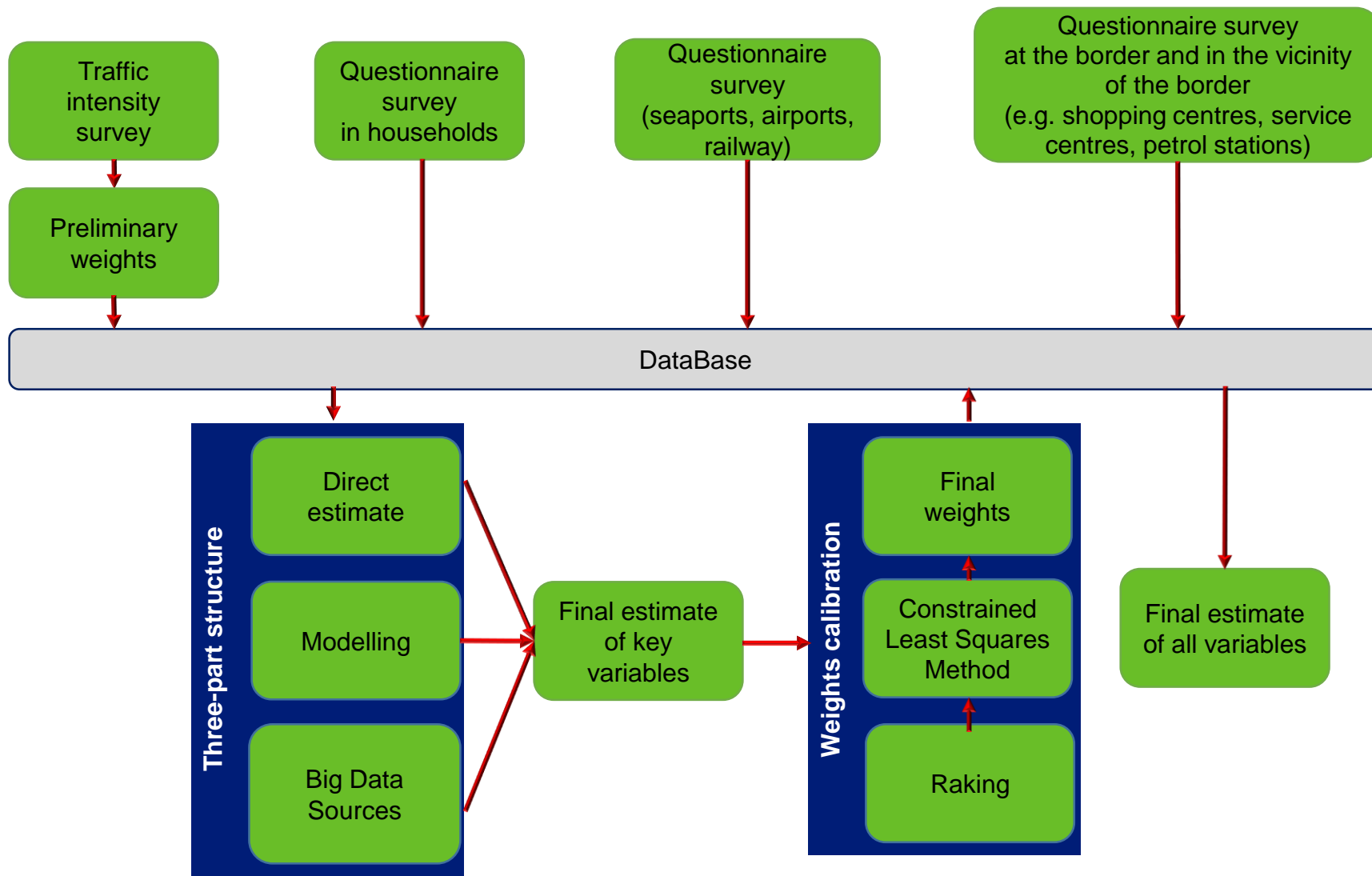
Specificity of transborder processes



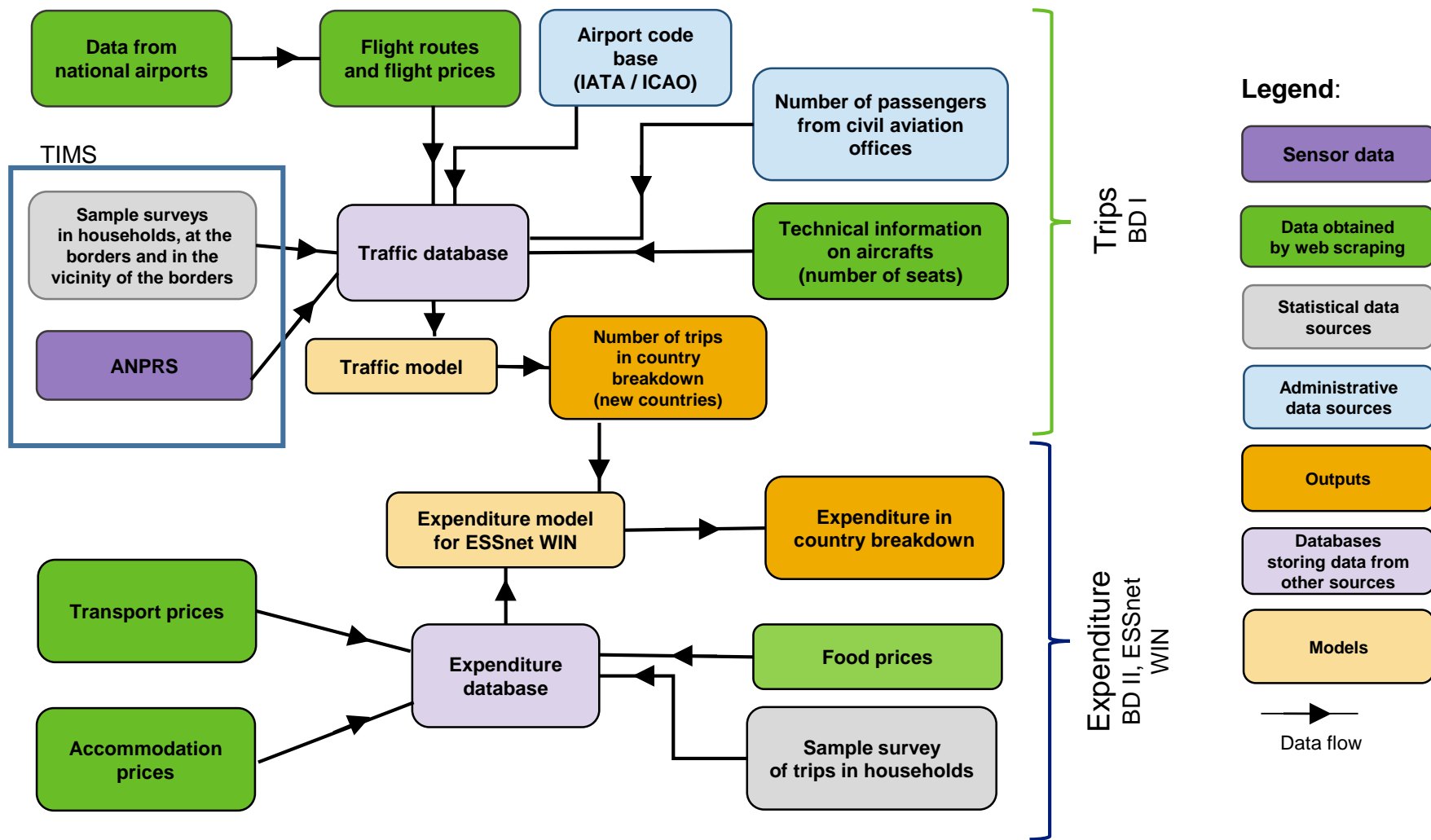
Comprehensive surveys



Data processing procedure



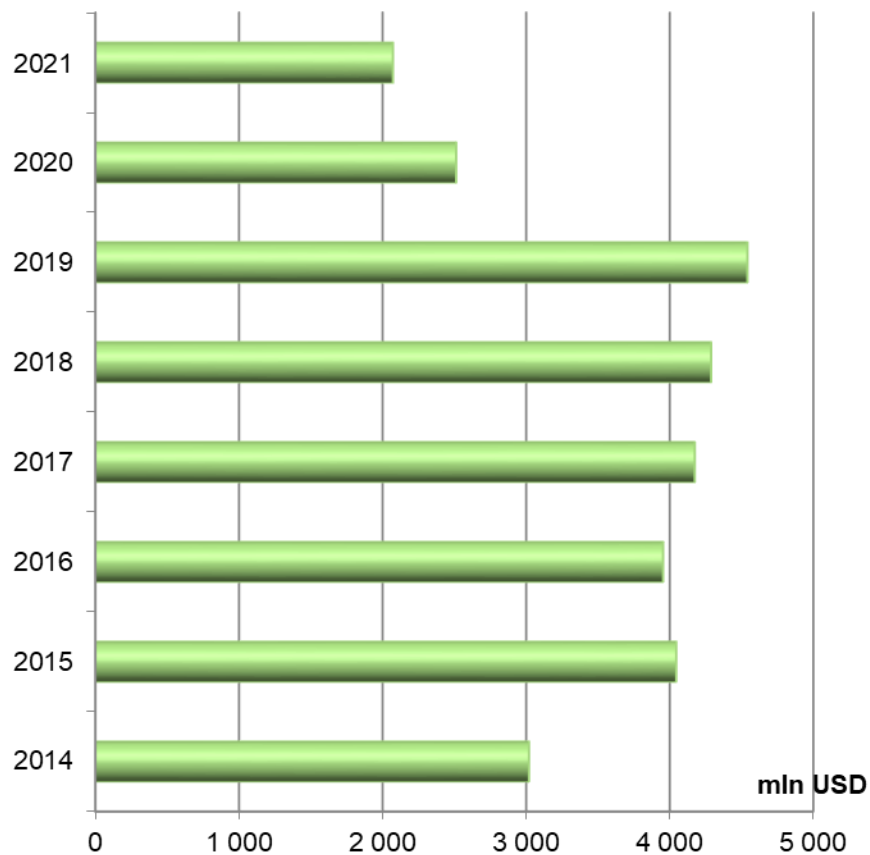
Trips and expenditure estimation model



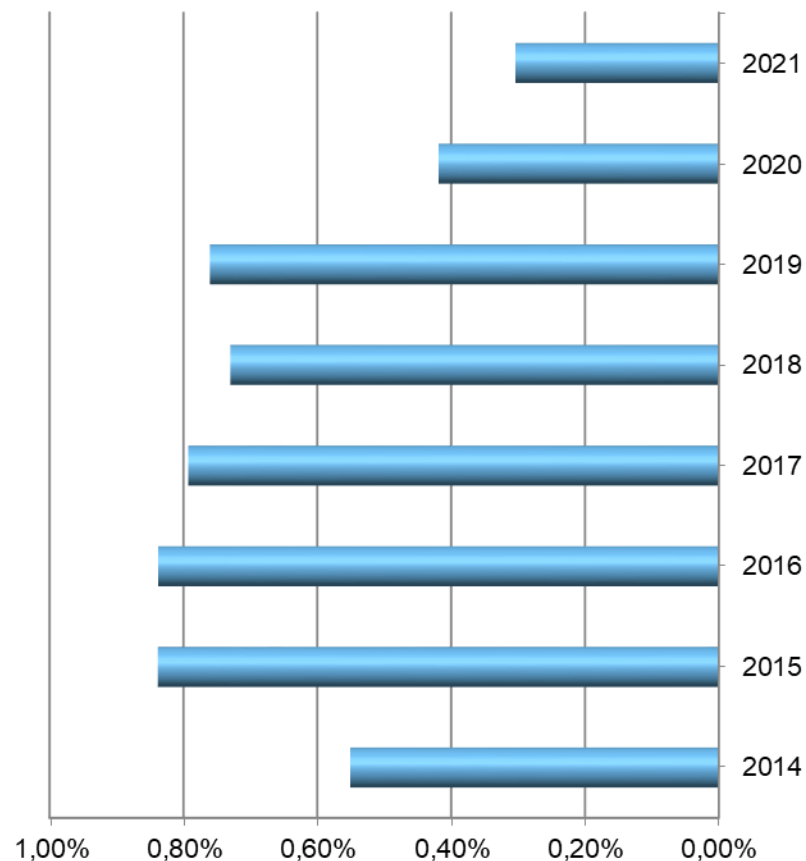
Transborder balance of trade

Results of comprehensive surveys

Transborder balance of trade

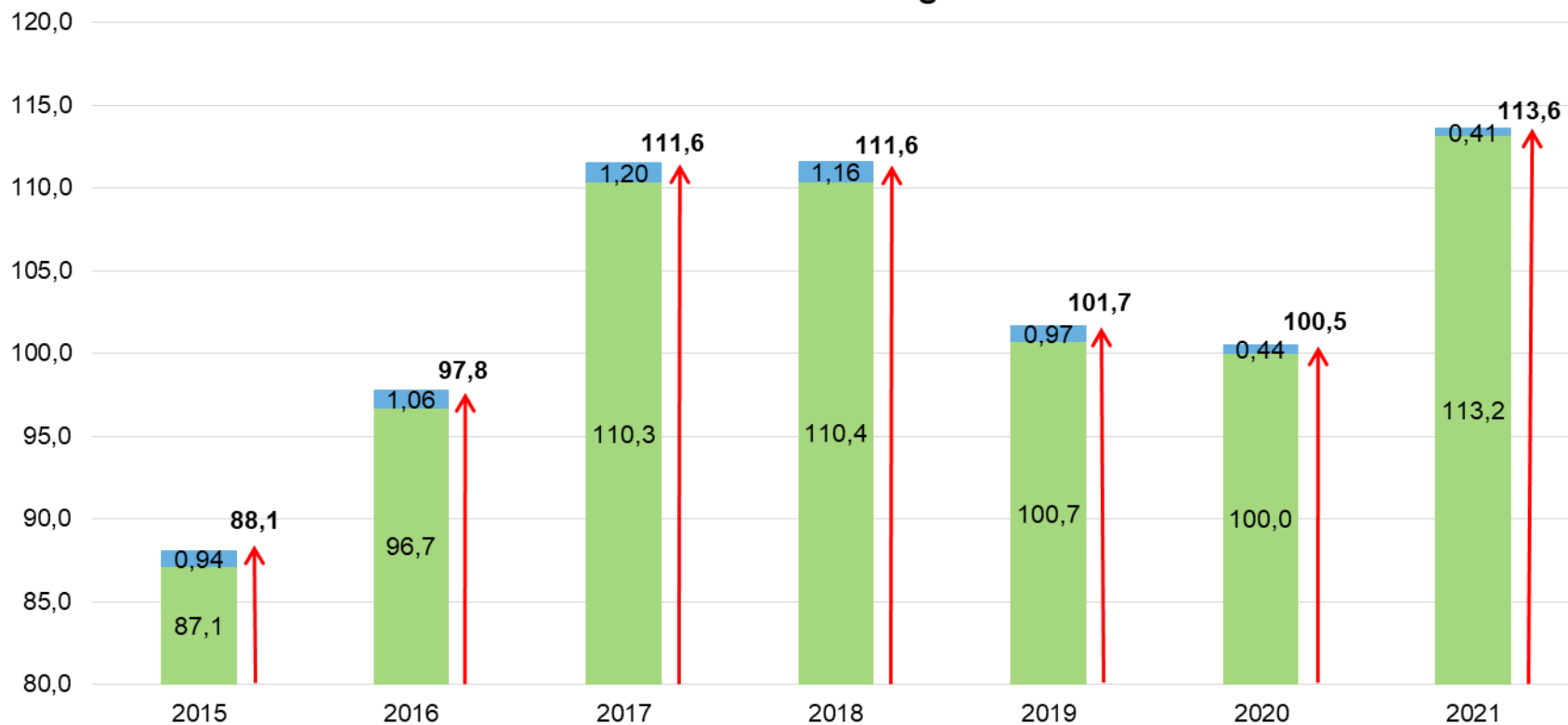


Share of transborder balance of trade in GDP



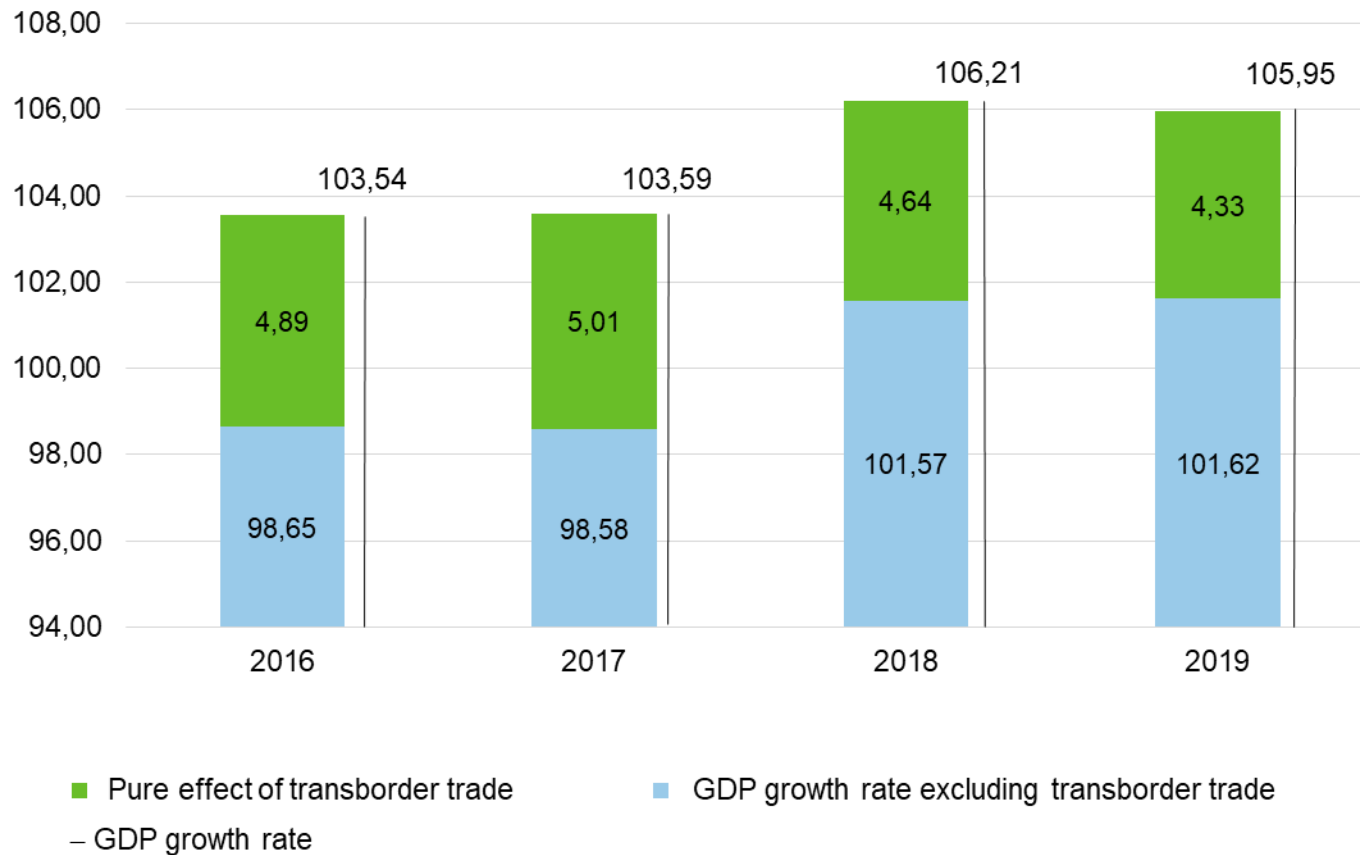
Transborder balance of trade

The rate of economic growth



■ Growth rate of GDP - pure share of transborder balance of trade ■ Growth rate of GDP - without transborder balance of trade

Real GDP growth rate in Podkarpackie Voivodship in 2016-2019 (previous year=100)



Cognitive dissonance

Cross border areas:

- socio-economic processes in these transborder areas have a significant impact on economic growth,
- transborder areas - usually peripherally located area in relation to major development centers, not closely integrated into the mainstream of economic development in particular countries.

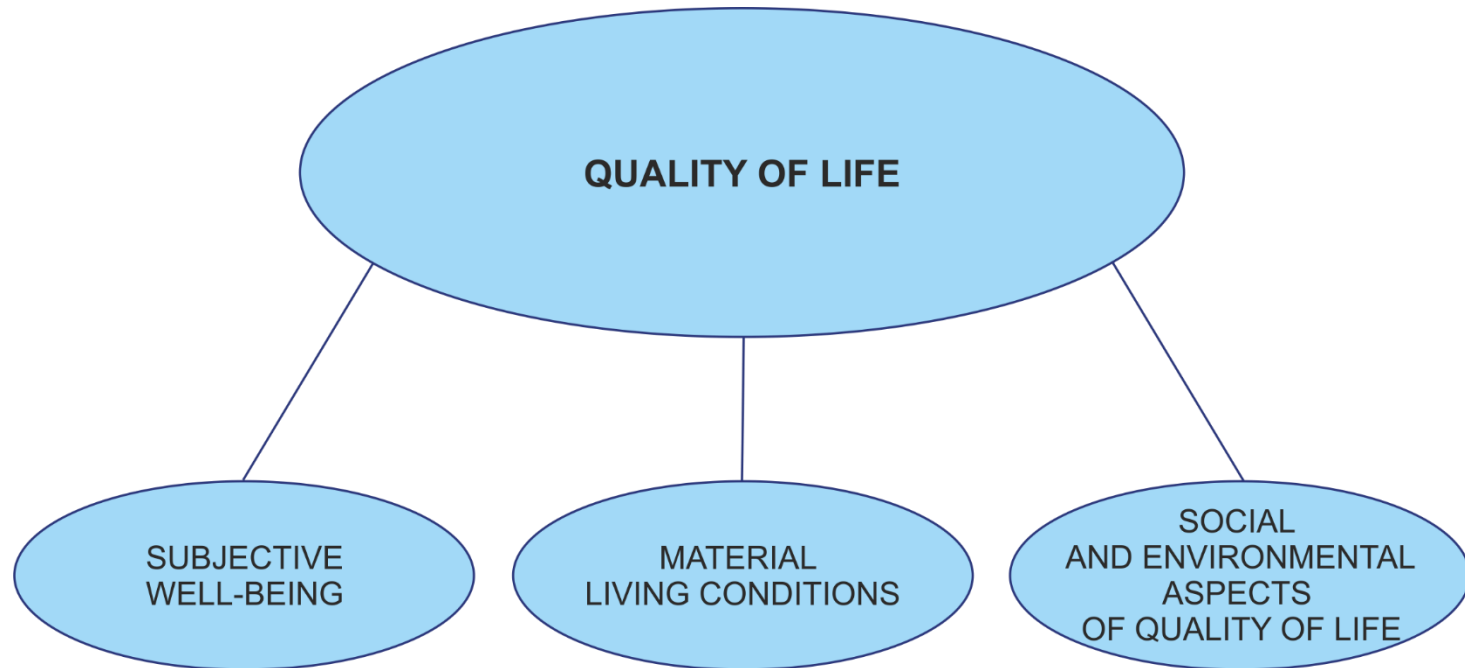
Transborder processes – three pillars:

- cross-border flows,
- territorial capital,
- quality of life – a lasting improvement in the quality of life is the overarching objective of sustainable development.

Research hypotheses:

- High subjective evaluation of selected aspects of quality of life does not correspond to objective characteristics of areas close to borders (well-being paradox);
- Border regions are characterized by specific patterns of household behaviour because, in addition to local and national conditions, they are also subject to deep cross-border processes;
- Social capital significantly affects the level of economic growth
- The Polish-Ukrainian cross-border area reveals untapped potential for renewable energy production (especially biogas production);
- ...

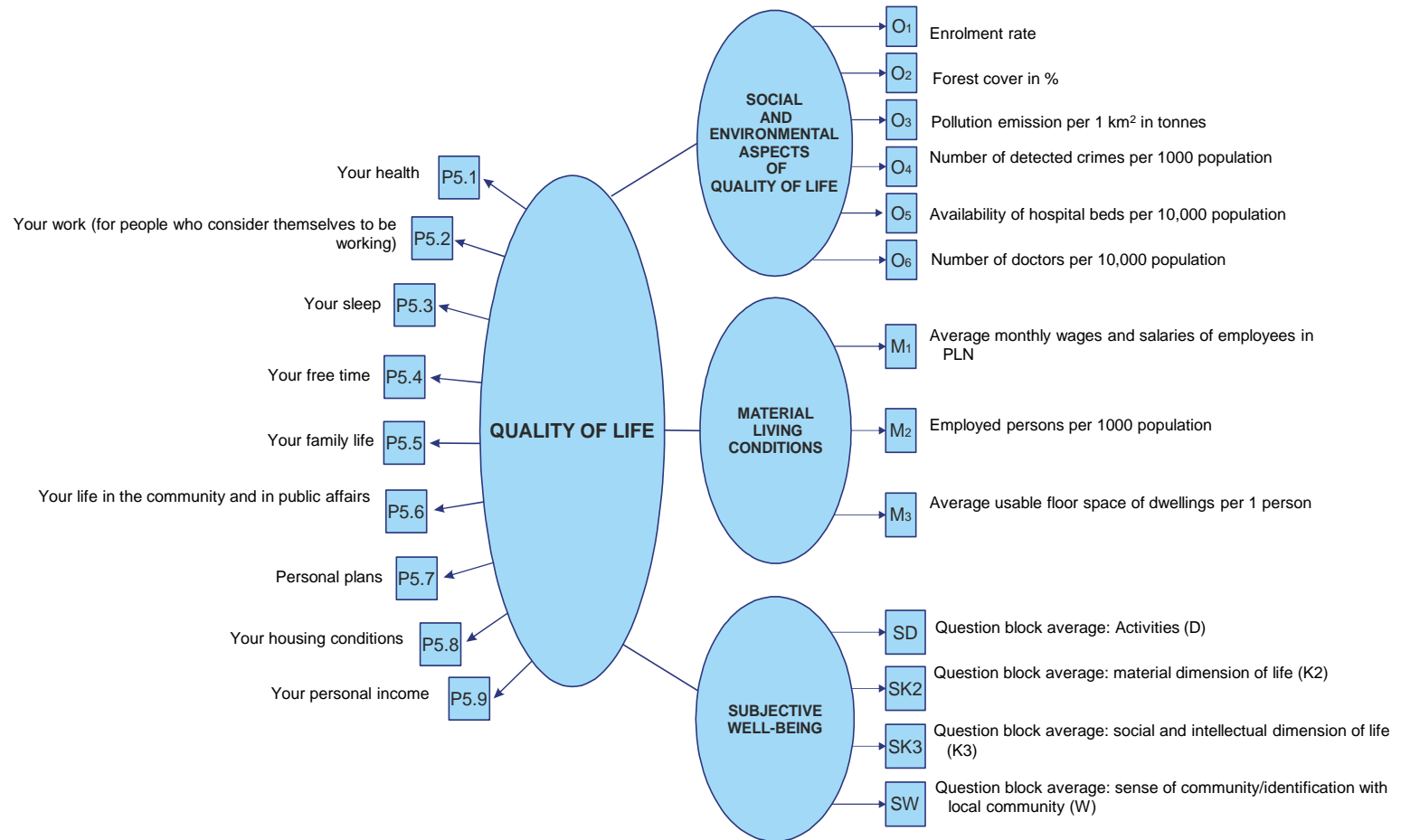
Quality of life – conceptual framework



Subjective aspects of quality of life

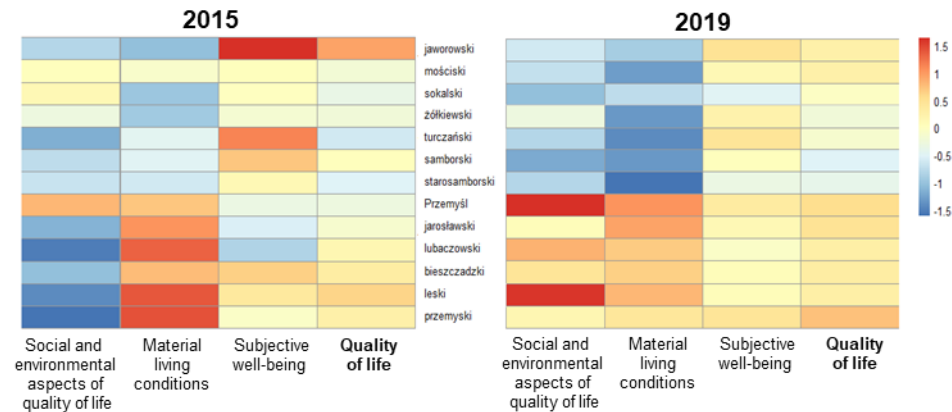
- Analysis of subjective aspects of quality of life - sample survey in households in 2015 and 2019;
- The survey questionnaire contained more than 100 questions in thematic groups material living conditions, social and intellectual aspects of life, satisfaction with key areas of life, and belonging and identification with a social group;
- The questionnaire was constructed based on the survey modules of the Oxford Quality of Life Index and Dashboard (see Anand et al., 2011), which were modified for Polish conditions.

Quality of life – conceptual framework – soft model scheme

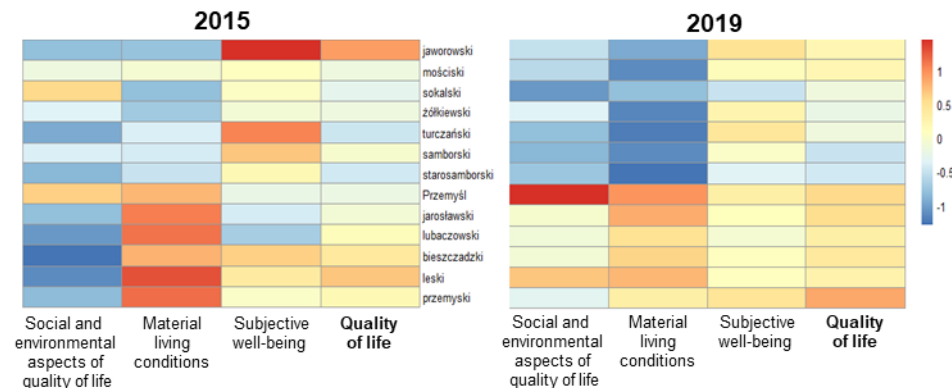


Well-being paradox

Transborder area - power model

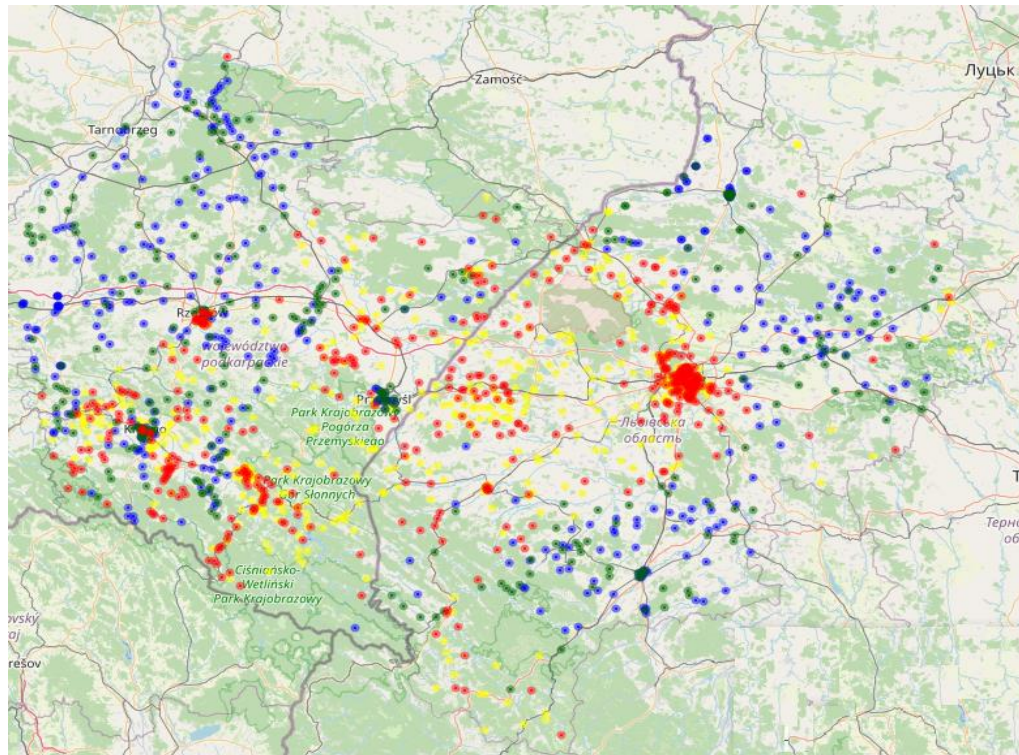


Transborder area - linear model



- a high similarity between the border areas of Poland and Ukraine
- a well-being paradox - high level of subjective evaluation of quality of life are contrasted with a low level of synthetic indicators concerning material living conditions and environmental aspects of quality of life.

The spatial location of Moran's scatter plot



| | |
|------------------|---|
| ● HH (high-high) | high value units surrounded by high value units |
| ● LL (low-low) | low value units surrounded by low value units |
| ● LH (low-high) | low value units surrounded by high value units |
| ● HL (high-low) | high value units surrounded by low value units |

- higher levels of evaluation of the quality of life by households close to the border that are surrounded by neighbours with similar characteristics.

SAR model

Spatial Autoregressive Models (SAR), written in matrix notation:

$$y = \rho W y + X \beta + \varepsilon,$$

where y is the quality-of-life index, X is the matrix of explanatory variables, W is the spatial weighting matrix, β and ρ are the model parameters, and $\varepsilon \sim N(0, \sigma^2 I)$ is the error term.

Coefficients β for the variables X

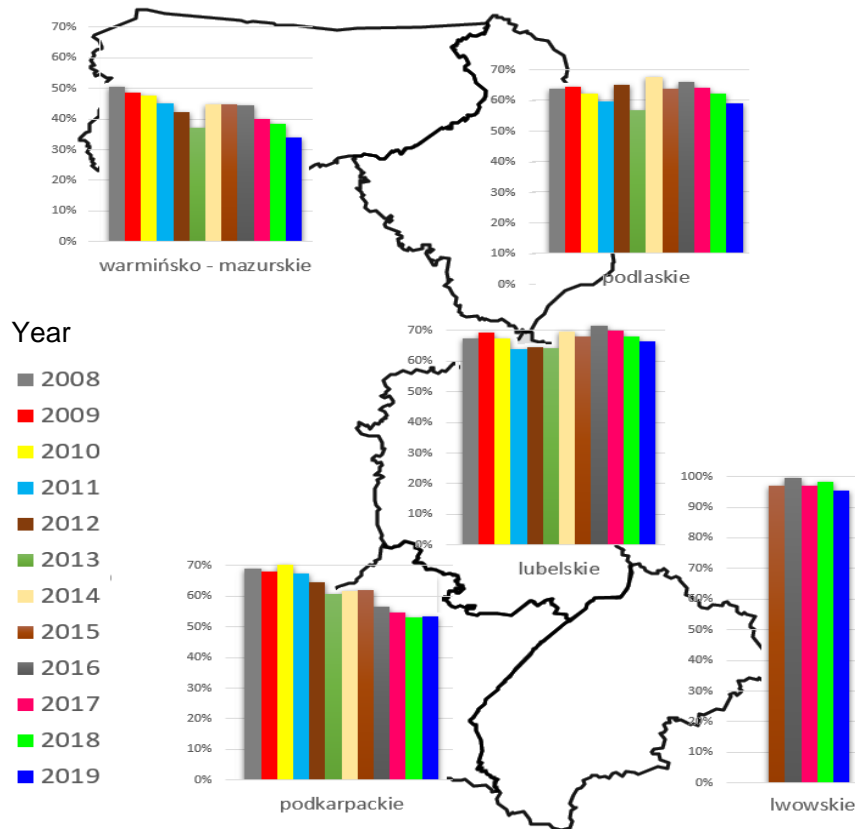
| | Estimate | Pr(> z) |
|--|------------|----------|
| (Intercept) | 0,33239 | 0.1858 |
| Average usable floor space of dwellings per 1 person | -0,01436 | 0.1647 |
| Employed persons per 1000 population | 0,00006533 | 0.7794 |
| Average monthly wages and salaries of employees in PLN | 0,00000637 | 0.7474 |

ρ (rho) coefficient of spatial autocorrelation (it refers to subjective evaluation of neighbours' quality of life)

rho: 0.61488, p-value: 1.9605e-08

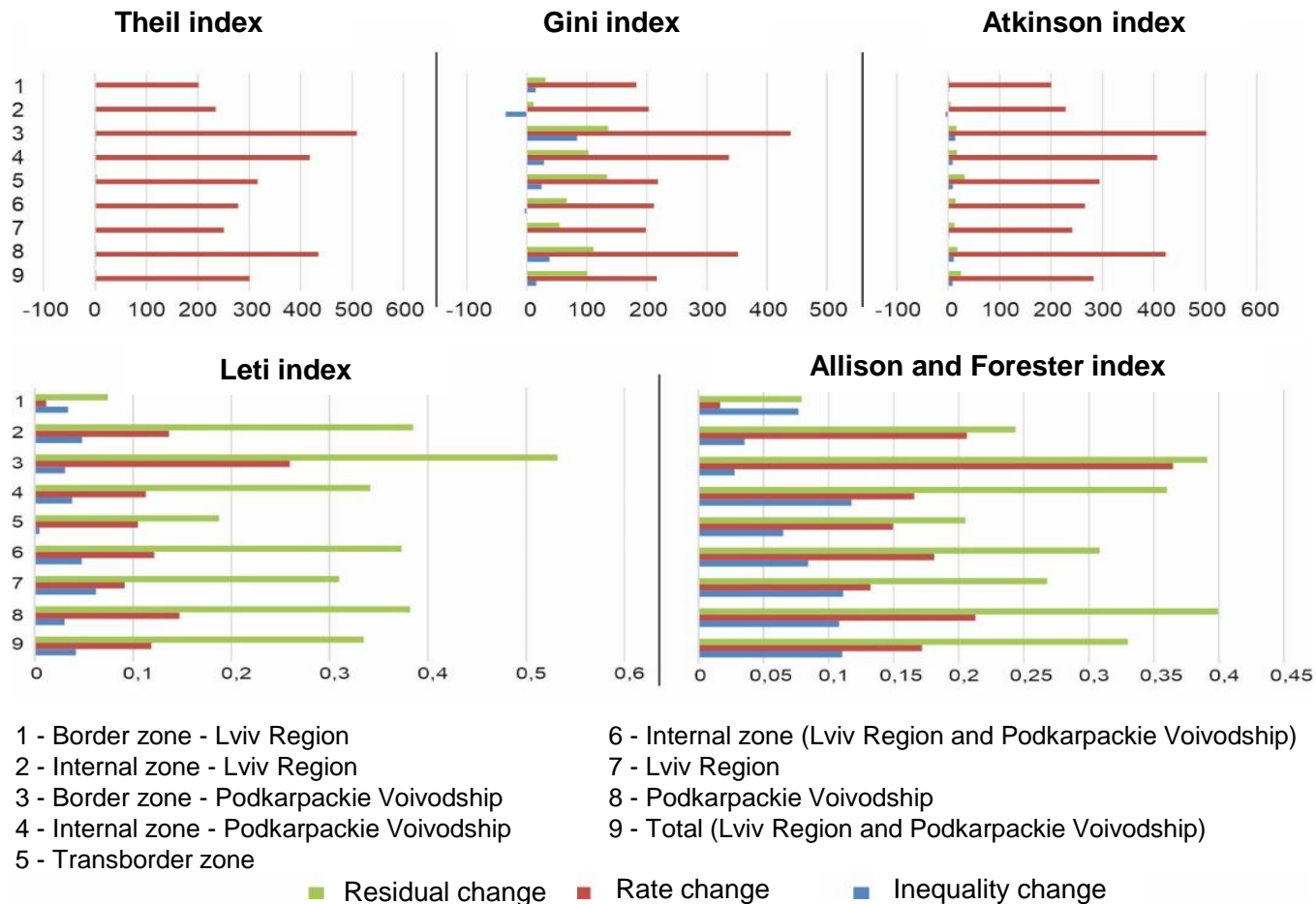
Private transfers

private transfers play a very important role in the political transition process, when informal links between households created a kind of economic safety net (Cox et al., 1997, pp. 191-192).



- private transfers impact on the balance of household budgets,
- in Ukrainian border regions, more than 95% of households participated in various types of transfers.

Assessing inequalities in subjective and objective aspects of quality of life



- 1 - Border zone - Lviv Region
- 2 - Internal zone - Lviv Region
- 3 - Border zone - Podkarpackie Voivodship
- 4 - Internal zone - Podkarpackie Voivodship
- 5 - Transborder zone

- 6 - Internal zone (Lviv Region and Podkarpackie Voivodship)
- 7 - Lviv Region
- 8 - Podkarpackie Voivodship
- 9 - Total (Lviv Region and Podkarpackie Voivodship)

- a decrease in income inequalities as well as decrease in inequalities in terms of subjective income assessment.

Escalation of the conflict – need for new approach

From June to August 2022, Statistics Poland (Statistical Offices in Rzeszów and Lublin) together with the **World Health Organisation (WHO)** conducted a survey of refugees.

- Pilot survey April - May 2022
- Survey of refugees June - August 2022

Statistics Poland:

- the survey methodology,
- organisation of the survey,
- IT system.

WHO:

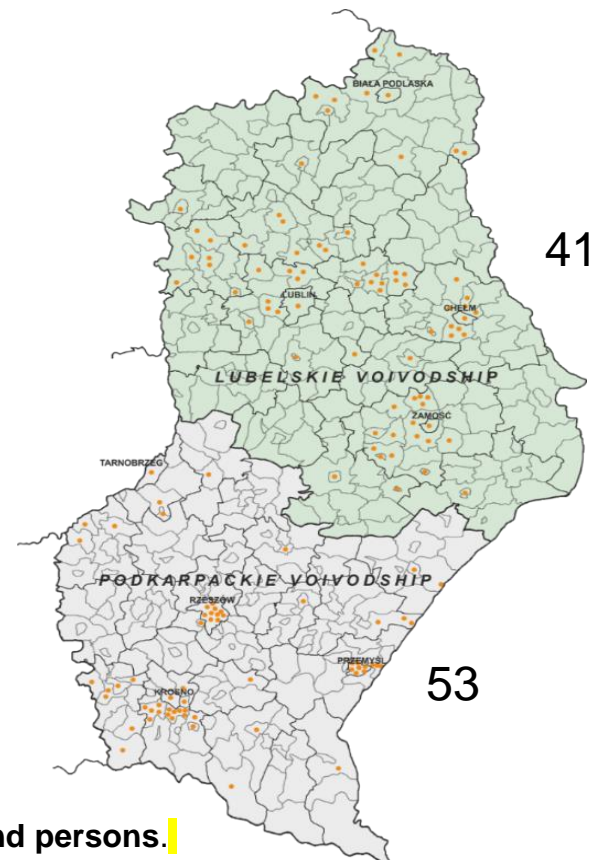
- health-related issues,
- behavioural insights survey,
- editorial work.

During the survey interviewers collected:

1.8 thousand questionnaires with information on approximately **5 thousand persons**.

Localities where the main survey was conducted

Podkarpackie and Lubelskie Voivodships (regions at NUTS 2 level)
- 94 localities



Survey results

Number of refugees by gender in age group: survey and the PESEL register

Survey of Ukrainian refugees in Poland

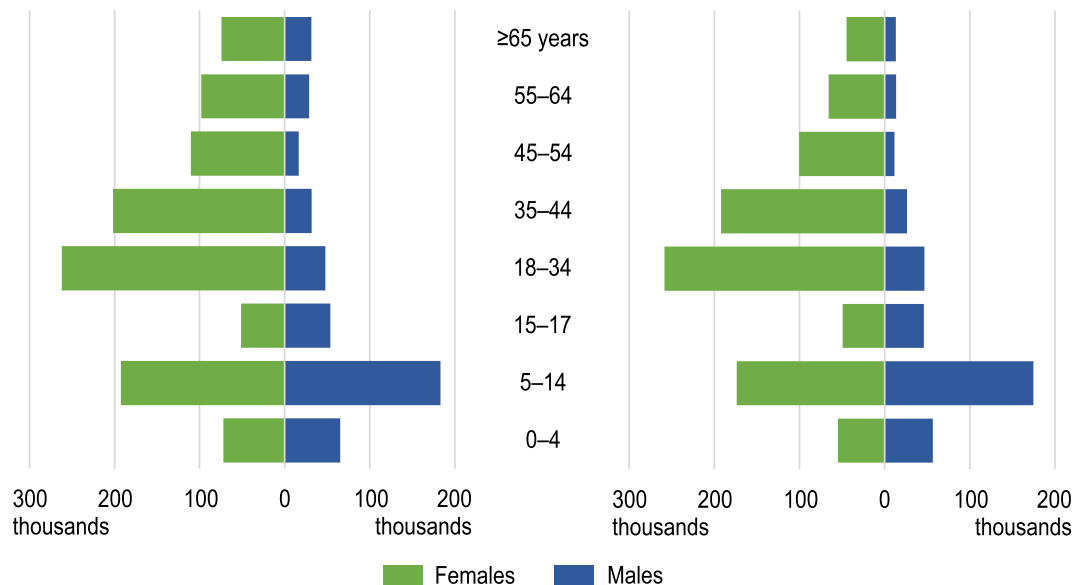


Health of refugees
from Ukraine in Poland 2022

Household survey
and behavioural insights research

REPORT, FEBRUARY 2023

Population register (PESEL)



The number of men over 18 is higher in the survey than officially registered in the PESEL register.

Monitoring of refugees - pilot survey results

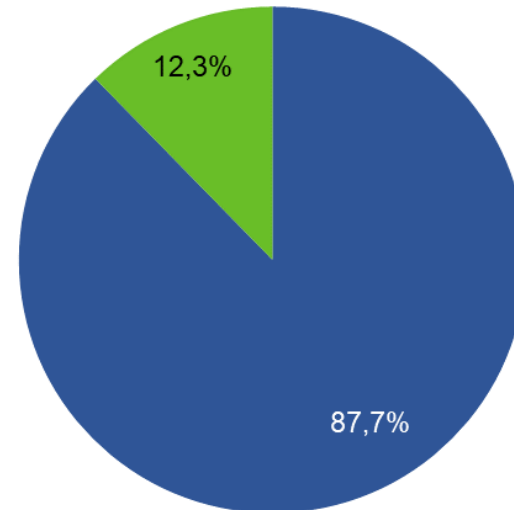


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Refugees registered in the population register (PESEL UKR)



■ Persons registered in the PESEL UKR register ■ Other persons

<https://rzeszow.stat.gov.pl/wspolpraca-zagraniczna-urzedu/health-of-refugees-from-ukraine-in-poland-2022/>

Conclusions

- The specificity of cross-border processes highlights many paradoxes including, above all, the well-being paradox . It was initially identified in the Polish (2015) and Ukrainian border zone (2015,2019) using a soft model. Final verification was done using spatial autocorrelation to identify household clusters;
- The unique character of cross-border areas is also revealed in specific patterns of household behaviour, which were identified on the basis of household budget surveys and the survey of subjective well-being in Poland and Ukraine. The specific characteristics of households - the large scale of private transfers;
- Despite the differences in potentials (infrastructural, economic, institutional, etc.) in the border areas, until the COVID-19 pandemic broke out, we observed more and more similarities in the assessment of quality of life (huge scale of private transfes, well-being paradox, decreasing inequalities in subjective and objective aspects of quality of life);

Conclusions

- Unique character of transborder areas:
 - requirement for uniform information infrastructure and base of knowledge on transborder areas;
 - continuous improvement of methodological solutions in research system for transborder areas;
- The practical use of such an information infrastructure - on the local, regional, national and international level.

Next steps



- Integration of new data sources (smart systems, MNO, credit cards satellite pictures, etc);
- Prototype of coherent research system with innovative micro-services with spatial econometrics tools;
- Real-time data analysis and flash estimates.

Thank you for your attention

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