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METHODOLOGICAL BASIS FOR ASSESSING TERRITORIAL COHESION: EU EXPERIENCE AND PRIORITIES FOR UKRAINE IN THE CONTEXT OF EUROPEAN INTEGRATION

Abstract

The article is devoted to analyzing the tools and methodological approaches used to assess the impact of territorial cohesion policy on reducing interregional disparities across regions within EU countries. A content analysis of territorial cohesion assessment tools—as applied in various programs and projects of the European Observation Network for Territorial Development and Cohesion, originally known as the European Spatial Planning Observation Network (ESPON)—was conducted to trace the evolution of methods for assessing territorial disparities between regions in EU countries. Based on a comparative analysis of the methodological frameworks used for territorial cohesion assessments in the EU, the author identifies the main obstacles to applying EU methodologies in

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evaluating territorial development policy in Ukraine and outlines key directions for improving Ukraine's system of statistical observation for territorial development.

Key Words:

cohesion policy, EU, European integration, evaluation, methodology, methods, regional development, state regional policy, territorial cohesion, Ukraine.

JEL: J18, D63, D69, I30.

1 figure, 2 tables, 42 references.

Problem Statement

Ukraine's status as a candidate for EU membership creates additional opportunities for government and business entities at the macro, meso, and micro levels to finance reconstruction and development programs and projects. This necessitates not only that domestic business entities transition to producing goods and services in accordance with EU technical regulations, but also the gradual implementation of EU standards in Ukraine with regard to the development of relevant policies in areas such as economics, finance, public administration, transport, agriculture, education, science, and other sectors.

For EU member states, the fundamental rules for developing state policies in these areas are established in the body of EU law, officially known as the *acquis* (European Union, n.d.). Due to prolonged martial law, the timeframe for implementing the relevant EU standards has been significantly shortened. This transition is also prompted by Ukraine's heavy reliance on international technical assistance and financial aid from the European Union. Therefore, the implementation of public policy standards in accordance with the *acquis* is critically important for Ukraine under conditions of budget deficits.

Literature Review

The study of issues related to territorial cohesion is a relatively new and extremely promising subject of discourse in the fields of political science, sociology, and economics in Ukraine.

The range of issues that have come into focus for domestic scientific schools mainly concerns the conceptual foundations for forming territorial cohesion and the system of imperatives for increasing Ukrainian societal cohesion (Prokopchuk et al., 2021; Laiko & Tsynalievska, 2022); the application of provisions from the new EU regional policy for Ukraine (Zhalilo et al., 2017; Zakharchenko, 2020; Fedulova & Yemelianenko, 2020; Davymuka et al., 2019); as well as a retrospective analysis of the institutional context of EU cohesion policy (Lishchynskyy, 2019). While the contributions of domestic scholars are highly valued, it is important to emphasize that, given more than 25 years of cohesion policy implementation experience in the EU, there is an objective need to study specifically the analytical work of European researchers. Over more than a quarter-century of research into the EU's territorial cohesion policy, these scholars have developed a substantial conceptual and analytical foundation for the category of «territorial cohesion». Notable contributions include studies by Camagni (2017, 2020), Bartosiewicz (2012), Jouen (2008), Kalinaki et al. (2014), Schout and Jordan (2007), Zaucha et al. (2014), and Ali et al. (2015). In addition, in terms of methodology and methodological approach, special attention should be paid to the works of Camagni (2020), Fischer et al. (2014), González et al. (2015), Medeiros (2014a; 2014b; 2017), among others.

An important informational and analytical basis for developing methodological support for evaluating the results of EU cohesion policy is provided by the European Commission's reports on the outcomes of seven-year programming periods for cohesion policy implementation (European Commission, 2010; 2014; 2017; 2022), as well as by ESPON's methodological materials and program reports on this subject (ESPON & University of Geneva, 2012; ESPON & National University of Ireland, Maynooth, 2013; ESPON, 2012; 2013a; 2013b; 2021; ESPON, n.d.), particularly over the past 15 years. The accumulated experience from the long-term implementation of EU cohesion policy allows us to draw qualitative conclusions about the effectiveness of specific instruments and measures applied under particular temporal and spatial conditions across different EU regions.

The purpose of this article is to analyze methodological approaches to assessing inter-territorial disparities within the framework of evaluating the effectiveness of the EU's territorial cohesion policy, in order to develop recommendations for improving Ukraine's statistical monitoring system for territorial development, taking into account current analytical challenges arising from the war and the country's prospects for European integration.

Methodology

The research methodology is based on general scientific principles and core tenets of economic theory. The study employs several analytical methods, including content analysis of research literature on the assessment of territorial cohesion in the EU; synthesis of methodological tools and research findings; thematic analysis of components of territorial cohesion that contribute to interregional disparities; and comparative analysis of the prerequisites for applying the EU's territorial cohesion assessment methods to Ukraine's needs. This approach enabled us to evaluate the applicability of EU territorial cohesion assessment methods to Ukraine and to develop recommendations for strengthening the informational support for assessing interregional disparities in Ukraine within the context of European integration, in order to potentially establish an information base for future interregional comparisons between Ukrainian and the EU regions.

Research Results

The European Observation Network for Territorial Development and Cohesion (ESPON) provides scientific and organizational support for the development of the EU's territorial cohesion policy. An analysis of the experience in developing methodological support for assessing territorial cohesion shows that various ESPON projects, when formulating various tasks related to the assessment and monitoring of social, economic, and territorial cohesion goals, have employed different sets of indicators and measures.

To consider the spatial impacts (effects) of EU projects and policies, ESPON launched a project in 2003, part of which involved developing the Territorial Impact Assessment (TIA) method. Alongside the TIA, ESPON experts implemented a series of projects aimed at developing European Territorial Cohesion Indicators (ETCIs). It is important to note that ESPON projects vary in size, scope, and duration, which has shaped the evolution of approaches to assessing territorial cohesion in the EU.

The TIA ESPON tool was developed to evaluate the territorial effects of policies and institutions, with the aim of minimizing unintended negative policy outcomes and maximizing the use of territorial potential. In this context, «territorial impact» is always linked to a specific geographical area and its properties, which determine sensitivity to political action (European Committee of the Regions et al., 2020). The Territorial Impact Assessment (TIA) is «a method for predicting the territorial effects of policies and providing useful information for territorial and sectoral policymaking» (ESPON, n.d.). TIA tools have been developed both at the EU

level and national levels for individual EU countries (Medeiros, 2016; Camagni, 2017). At the EU level, the most commonly used TIA tools are ESPON Quick Check, LUISA, and RHOMOLO, which are used to assess the potential territorial impact of policies and directives. Each tool has distinct characteristics and specific areas of application.

The ESPON Quick Check tool employs expert participation and quantitative, data-driven approaches to map territorial impacts. The results of its territorial impact analysis provide insights into the potential effects on EU and some non-EU countries within a relatively short timeframe. The analysis itself takes the form of a comprehensive overview across several thematic fields, intended for initial review.

RHOMOLO is a spatial computable general equilibrium model that mainly estimates economic impacts at the NUTS 2 level (regions within EU countries). These impacts are measured as changes relative to a baseline scenario and can be expressed as either percentages or absolute values (e.g., millions of euros or thousands of people employed). The model provides results at the NUTS 2 level and is applied to micro- and macroeconomic indicators.

LUISA is a modeling platform used to assess the regional and local impacts of European policies and trends. It allows users to develop a baseline scenario up to 2050 based on land function assessments at a grid resolution of 100 by 100 meters (European Commission, n.d.). Using high-resolution input data makes it possible to apply the results of scenario modeling to a wide range of areas, including functional zones and cross-border regions. The researchers' complex and sophisticated modeling approach can provide spatial analyses on which to base more informed policy decisions. However, it should be noted that extrapolating the analysis results for a small region as part of the LUISA tool may lead to misleading interpretations, given that the specifics of a territory, such as its landscape details, zoning plans, and geographical features, are determined by its local characteristics.

It should be emphasized that ESPON programs have significantly contributed to the development of the TIA methodology at the European level. The ESPON TEQUILA methodology is one of the most comprehensive, covering all aspects and taking into account all components of the territorial cohesion concept. Its results are based on quantitative assessments of forecasting models performed by external experts, as well as expert judgments collected through interviews. However, the comprehensive nature of the TEQUILA methodology's results limits its usefulness for policymakers. The EATIA methodology aims to overcome this problem by using a bottom-up approach and qualitative data from participatory approaches.

The TIA-CBC tool, developed by the ESPON program, is a methodology designed for cross-border regions. It focuses on desk research and participatory approaches, enabling experts to verify and adapt the results of the former. Compared to TEQUILA, both EATIA and TIA-CBC greatly simplify the assessment process and allow policymakers at the national, regional, and local levels to participate directly. However, these approaches are less comprehensive and thorough than TEQUILA.

In addition to the ESPON program, the methodological foundations of territorial impact assessment were substantively developed through the research of Eduardo Medeiros. The TARGET_TIA methodology, developed by Medeiros (2014b), is the most rigorously substantiated territorial impact assessment methodology at the European level. However, despite the comprehensive nature of the results obtained, the accounting processes of TARGET_TIA have certain disadvantages, being characterized as time-consuming and cumbersome.

Cautions in using TIA tools for analysis: The use of TIA tools is limited by three types of obstacles:

1) Technical limitations, mostly related to the accessibility and availability of data;

2) Application constraints, arising from misperceptions about the use and applicability of TIA, including limited awareness of the value of implementing TIA and fear of producing explicit results.

3) Policy process constraints, mostly due to the voluntary nature of TIA implementation in EU policy-making processes.

In ESPON's practice, studies were conducted to develop a comprehensive European Territorial Cohesion Index (ETCI) as an alternative to the TIA tool. The purpose of developing the ETCI instrument was to create a technical tool for evaluating scenarios. Initially, the idea was to develop a synthetic index that would consider the three fundamental objectives of the European Spatial Development Perspective (ESDP): economic competitiveness, social cohesion, and sustainable development. The Human Development Index (HDI) was used as a reference model. The choice of the synthetic index was driven by the need to assess both past and future trends, while ensuring the index remained relatively easy to use. Initially, the study focused on technical issues and the use of data available in the statistical annex of the Second Report on Economic and Social Cohesion (European Commission, Directorate-General for Regional and Urban Policy, 2001). From a methodological point of view, a number of drawbacks were spotted when constructing synthetic ETCI indices. The main shortcomings identified in developing a single synthetic index of territorial cohesion were: (1) the subjectivity and insufficient scientific validity of the weighting factors used to calculate the index; (2) the heterogeneity of the aggregate indicators, particularly the economic, social, and spatial indicators, which differ in nature and level of impact; and (3) the availability of reliable data, which affects the accuracy of the index calculation and is manifested through incomplete or outdated statistics due to the different statistical observation methodologies, data processing, and updating approaches used by the statistical services of different EU countries. Consequently, given the threat of manipulation of the calculated index results and the need to balance the quality of scientific research results with political influence, it was determined that using an aggregate synthetic index calculated on a per-year basis is inappropriate. Thus, the study of statistical and cartographic tools was postponed, and the purely deductive strategy of developing a single, comprehensive index

based on theoretical concepts was abandoned. Instead, the study shifted its focus to considering the methodological tools and empirical applications of individual indicators. A more inductive strategy was adopted that focuses on the availability and quality of data that can be used to develop an index that takes into account the different aspects of the ESDP objectives. This strategy also attempts to define the concept of territorial cohesion based on the Third Cohesion Report and other policy documents. Additionally, the ESPON 3.2 project concluded that an appropriate territorial cohesion index cannot currently be built within the ESPON and Eurostat databases due to uneven thematic indicator presentation. The report notes that the databases only adequately document economic aspects. Very little information is available at the regional level to assess environmental sustainability, and even less is available to assess the social aspect of cohesion. Only four of the 103 indicators in the ESPON list can be considered social.

In developing the ETCI, one of the tasks was to create a tool for spatial heterogeneity analysis. This tool compared the global level of heterogeneity and the local level of heterogeneity in order to propose a measure of spatial autocorrelation. However, the results of the analysis showed that it is impossible to construct a relevant territorial cohesion index at the regional level that combines the three dimensions of the ESDP given the current statistical situation in the EU. Therefore, the ETCI study was discontinued. The analysis also suggested four options for addressing the lack of reliable and complete data:

(1) Requesting that Eurostat develop new data collection in the future.

(2) Proposing the use of long-term series available at the national level for regional assessments.

(3) Attempting to assess target phenomena using proxy variables available at the NUTS 2 level.

(4) Forming prospects for further case studies to validate estimations and conduct in-depth analyses.

A set of cohesion indicators was developed within the framework of the INTERCO (INdicators of TERritorial COhesion) project (ESPON, 2013b)—a separate project that consolidated previous ESPON work in response to the need to create a composite indicator of polycentric territorial development. The development of these indicators took into account the territorial objectives specified in the strategic document on spatial development, the Territorial Agenda 2020 (TA-2020), and covered the three dimensions of the Europe 2020 strategy.

Together, these territorial objectives ought to shape the future cohesion of diverse territories working to build a strong, smart, and resilient Europe. The indicators defined for each objective not only reflect the corresponding thematic area but are also interconnected and mutually dependent. According to the developers of the INTERCO project's indicator system (ESPON, 2013b), the existing set of indicators makes it possible to demonstrate the divergence (or convergence) be-

tween territorial development indicators and the EU's main territorial policy priorities, highlighting regions that differ significantly from the average, which, in turn, helps determine policy priorities. This facilitates the classification of regions based on the results of shifts in political action and supports the construction of new typologies. At the same time, the indicator set is flexible enough to adapt to future policy changes and changes in data availability.

The process used by ESPON experts to identify indicators for different territorial cohesion assessment projects is flexible and adaptive, tailored to the specific objectives of each project. Indicators are selected and compiled either through composite indicators or by sector (e.g., energy, transport, agriculture). Additionally, analysis of several ESPON projects (e.g., INTERCO and ESPON project 4.1.3, «Feasibility Study of Territorial Development Monitoring Based on ESPON Key Indicators») shows that indicators are also grouped by thematic area in accordance with certain EU policy frameworks, particularly the Lisbon and Gothenburg Strategies (ESPON, 2006) and the European Spatial Development Perspective (ESDP) (ESPON, 2006). For example, monitoring indicators for the Lisbon Strategy were outlined in the statistical annex of the Commission of the European Communities' report presented to the Spring European Council in 2004 (Commission of the European Communities, 2004). These indicators were designed to track progress toward the Lisbon Strategy's goal of increasing Europe's competitiveness by 2010. The values of these indicators are normalized by calculating indices, with the EU-15 index set at 100. The indicators are grouped into eight main themes: (1) access to finance; (2) legal, regulatory, and administrative environment; (3) open and well-functioning market; (4) entrepreneurship; (5) human resources; (6) innovation and knowledge dissemination; (7) information and communication technologies (ICT); and (8) sustainable development.

Cautions when using ECTI tools for analysis: When selecting territorial cohesion indicators within ESPON projects, certain caveats must be considered. Analyzing territorial cohesion within the ESPON spatial development approach is not only a matter of selecting appropriate indicators, but also of applying an analytical framework. The analytical structure should account for both the territorial and temporal dimensions of cohesion. The territorial dimension examines differences between regions at a given point in time, and the temporal dimension studies how these disparities evolve over time.

Ideally, existing disparities should decrease over time, reaching a certain threshold or target value. In order to assess the temporal dynamics of the cohesion indicators under analysis, the desired direction of change must be known for each individual indicator. For some indicators, a negative trend – indicating a reduction in disparity – is desirable, while for others, an increase or stabilization over time is preferred. Because of this, the preferred timeframe for analysis is ten years («trend»).

The structure of the territorial cohesion analysis should reflect two dimensions. Territorial differences at a given point in time can be examined using:

(1) standard statistical indicators such as minimum/maximum values, standard deviations, and the Gini index; and (2) more sophisticated approaches, including spatial autocorrelation analysis (e.g., Moran's I), regression analysis, and typology construction. The temporal dimension, in its simplest form, is analyzed by identifying changes (the difference between two points in time, expressed in absolute or relative terms) and by determining the direction of change (the trend). However, the problem with using changes between two points in time is that the results are highly dependent on which two points are chosen—often, the changes appear different when different base years are chosen.

It is also important to define the desired direction of change for each territorial cohesion indicator. This direction of change is linked to a threshold or target value to be achieved either for all of Europe or for specific types or groups of regions. The definition of such target values for indicators is associated with the political aspect, openness, and synchronization for the purpose of ensuring the comparability of statistical indicators between countries.

Table 1 presents the characteristics of the methodologies used in the selection and compilation of indicators within the individual ESPON projects.

Table 1

Methodologies used in various ESPON projects

Project	Characteristics of the applied methodology
INTERCO	The compilation of indicators for devising a territorial cohesion strategy is based on an iterative selection process and is in line with defined policies.
KITCASP	The selection of indicators is based on specific criteria. The information base is based on existing data and indicators, and the purpose of creation is for agreed-upon topics related to spatial planning.
ARTS	The Policy Risk Matrix (DEM) describes the intensity of policy impacts using a predefined set of thematic fields.
ETMS – EU Territorial Monitoring System	The indicator system is designed to monitor European territorial trends.
BSR-TeMo – Territorial monitoring for the Baltic Sea region	Cohesion is measured using distribution and convergence indicators and BSR target indicators based on geographical elements.

Source: compiled by the authors based on respective ESPON projects (ESPON & University of Geneva, 2012; ESPON & National University of Ireland, Maynooth, 2013; ESPON, 2012).

In retrospect, analyzing the tools used to present results and the forms of representation of territorial cohesion indicators within ESPON projects reveals that, until 2013, the visualization of research materials was primarily limited to maps highlighting regional data at the NUTS2 or NUTS3 statistical levels. Although the projects in the ESPON 2013 program introduced innovative ways of presenting their findings that went beyond the typical cartographic tools used at the time for the EU and surrounding countries (Switzerland, the UK, and several European Neighborhood Policy and EU enlargement countries), the challenge remained that the contribution of applied research projects relied on comparable data and indicators, regardless of the final presentation. Experience gained in previous years enabled ESPON specialists to develop presentation tools that addressed the problem of covering not only land but also marine areas. Additionally, various ESPON projects were proposed to develop indicators of territorial cohesion. The ESPON 2013 programs and projects also focused on creating time-series datasets to understand the development of cities and regions over time. These projects integrated innovative data types that allow us to understand not only individual indicators, but also the more complex dynamics of territorial development. Subsequent ESPON projects were related to the development of quantitative approaches for understanding European territorial development. These include various modeling approaches that have been successfully applied in ESPON projects, as well as quantitative approaches to building future development scenarios for EU regions. A highlight of the ESPON 2013 program is the progress made in defining, developing, and establishing territorial impact assessments. While the ESPON 2006 program was the first to define and test different approaches to territorial impact assessment at the European level, the ESPON 2013 program built on this work, moving towards a more coherent approach that has already proven useful to EU policymakers. Like most ESPON analyses, this approach is based on the use of pan-European territorial typologies.

The main outcome of the ESPON 2006 program was the realization that quantitative research alone is insufficient to fully understand the dynamics, potential, and challenges of territorial development in the European Union. Keeping this in mind, the ESPON 2013 program emphasizes complementing quantitative analysis with qualitative research. This research ranges from a broader and more thorough use of thematic studies to in-depth policy analyses and rigorous approaches to developing visions within the EU. All of these qualitative approaches depend on the use and understanding of territorial concepts, as do many quantitative approaches.

In summary, the various approaches and methods used to select tools for assessing territorial cohesion in different ESPON projects demonstrate significant variability and differentiation in research methodologies. Thus, different approaches to methodology formation were applied when choosing assessment tools, including one or a combination of several of the following:

- analysis of scenarios and policy directions;
- analysis of EU strategic documents (e.g., European Commission directives, policies, and national/regional development strategies);

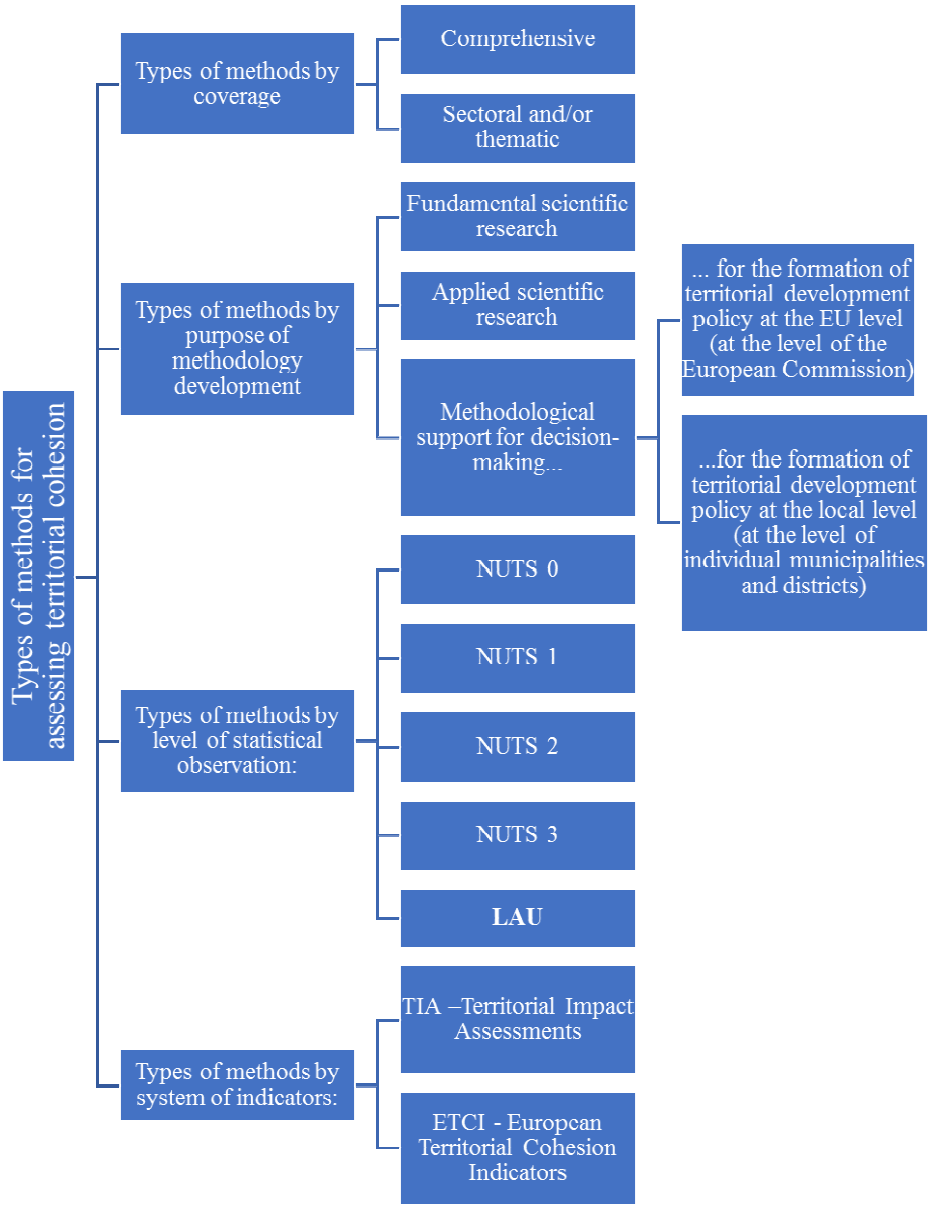
- a conceptual vision of ESPON scholars;
- identification as a result of discussions at seminars, workshops, and intergovernmental groups of industry experts;
- analysis as part of a separate study within individual projects.

Summarizing the experience of EU countries in applying different methodological approaches to assessing territorial socioeconomic cohesion, as accumulated within ESPON projects since 2000, allows us to classify the methods used to assess territorial cohesion in EU countries (Figure 1). The methods used to assess territorial cohesion in EU countries vary according to the following criteria:

1) Coverage:
   - comprehensive (representing a system of different indicators);
   - sectoral and/or thematic (transportation and agriculture, energy, innovation, climate change, etc.)
2) Types of indicators:
   - TIA –Territorial Impact Assessments;
   - ETCI – European Territorial Cohesion Indicators
3) Objectives of methodology development:
   - fundamental scientific research;
   - applied research;
   - methodological (information support) for decision-making by EU territorial development policy makers;
   - methodological (information support) for decision-making by those who formulate or implement development policy at the local level
4) Levels of statistical observation:
   - Nomenclature of Territorial Units for Statistics – NUTS 0: country;
   - NUTS 1: main socio-economic regions (macro-regions);
   - NUTS 2: basic regions for the application of regional policy (regions);
   - NUTS 3: small areas for specific observations (districts);
   - Local Administrative Units – LAU: the level of administrative units is formed based on the criteria of statistical data availability and policy implementation capacity (municipalities, communities, or units corresponding to local-level typologies included in TERCET, namely the coastal zone classification and DEGURBA, including cities (towns, villages, and settlements) and rural areas).

Figure 1

Classification of methods for assessing territorial cohesion in EU countries



Source: made by the authors.

In summary, ESPON experts have gained experience in developing methodological tools for assessing territorial cohesion. These tools have revealed certain common thematic areas that form the systems of territorial cohesion indicators within the framework of various ESPON projects, as presented in Table 2.

As shown in Table 2, apart from ESPON projects, the European Statistical Office (Eurostat) is responsible for compiling statistical observations of indicators that characterize territorial cohesion as part of efforts to reduce interregional disparities in the EU. Eurostat identifies 16 territorial cohesion indicators, defined as «Cohesion Policy Indicators 2021-2027». These include only two economic indicators — gross regional product at purchasing power parity (measured at the NUTS 2 level) and gross national product (measured at the national level) — and one environmental indicator — greenhouse gas emissions. The remaining indicators characterize the social sphere, reflected in employment, unemployment, education, and migration of non-EU citizens.

Conclusions and Potential Applications for Ukraine

An analysis of existing methodological support for assessing territorial cohesion in the EU, as well as the application of relevant approaches, tools, and methods for evaluating interregional disparities, reveals that the methods used to analyze this issue are evolving alongside the challenges faced by those responsible for evaluating the practical outcomes of EU cohesion policy, particularly ESPON experts. Changes in the main thematic areas and indicators for interregional comparisons and territorial cohesion assessments occur in sync with the EU's seven-year budget cycles.

In our opinion, given the current conditions, the potential for applying methods to assess territorial cohesion in EU countries to Ukraine is limited. The reasons for this are the different approaches to forming statistical support for assessments and the completeness of statistical information coverage. At the EU level, the nomenclature of territorial units (NUTS0, NUTS1, NUTS2, and NUTS3) is used, which does not correspond to the statistical nomenclature used in Ukraine at the state, regional (oblast), district (rayon), city, town, and village levels. Additionally, differences in the methodological tools for assessing interregional disparity indicators arise due to the different duration of statistical observation cycles. In the EU, changes to the methodology for generating statistical data can be made no more than once every seven years. In Ukraine, however, there are no such standards for maintaining consistent methodological support for assessing data series over time.

Table 2

Thematic areas for the development of a territorial cohesion indicator system

<table>
<tr><th></th><th>ETMS</th><th>KITCASP</th><th>INTERCO</th><th>BSM-TEMO</th><th>SIESTA</th><th>CITYBENCH</th><th>EuroStat</th></tr>
<tr><td rowspan="2">Economic sphere</td><td colspan="2" rowspan="2">Economic competitiveness</td><td>Strong local economy for international competitiveness</td><td rowspan="2">Economic productivity and competitiveness</td><td rowspan="2">Economic development and competitiveness</td><td rowspan="2">Economy and Population</td><td rowspan="3">Economic development (indicator: GDP per capita at PPP; GNP)</td></tr>
<tr><td>Integrated polycentric local development</td></tr>
<tr><td rowspan="2">Human capital</td><td rowspan="2">Economic sustainability</td><td colspan="2">Innovative territories</td><td>Research, development and innovation</td><td>Smartness (smart specialization)</td></tr>
<tr><td rowspan="4">Social sphere</td><td colspan="2">Social inclusion and quality of life</td><td>Employment, skills and jobs</td><td>Quality of life in terms of seats in cinemas and other amenities</td><td>Employment and unemployment rates</td></tr>
<tr><td rowspan="3">Social inclusion</td><td rowspan="3">Social cohesion and quality of life</td><td rowspan="3">Attractive regions in terms of strong territorial capital and</td><td rowspan="3"></td><td>Education</td><td>Quality of life via personal safety indicators</td><td>Education</td></tr>
<tr><td>Poverty, social exclusion and ageing</td><td>Demographics</td><td>Demographic indicators</td></tr>
<tr><td>Environmental sphere</td><td>Environmental characteristics</td><td>Natural resource management</td><td>high environmental value</td><td>Environmental characteristics</td><td>Green economy, climate change and energy</td><td>Quality of life w/ environmental characteristics</td><td>Environmental characteristics</td></tr>
<tr><td>Spatial development</td><td>Access to the territory and services</td><td>Demographics
Housing conditions
Transportation
Land use
Access to services</td><td colspan="2">Fair access to services, markets and jobs</td><td>Digital society</td><td>Demographics</td><td>Population density</td></tr>
</table>

Source: compiled by the authors based on ESPON projects and EuroStat statistics (2024).

Regarding the applicability of the study's results to Ukraine, the development of methodological support for assessing territorial socioeconomic cohesion requires an in-depth analysis of the main factors and characteristics of the processes involved in creating and supporting regional development and cohesion within a given territory.

The State Statistics Service of Ukraine, in matters related to the formation of a system of regional development indicators, uses the Methodological Provisions on the Organization of State Statistical Observation «Regional Accounts», approved by Order No. 210 of the State Statistics Service of Ukraine on July 13, 2020 (State Statistics Service of Ukraine, 2020).

One major difficulty in elaborating methodological approaches to assessing regional development, particularly in addressing interregional disparities and ensuring cohesion, is the outdated nature of domestic statistical observations, which have failed to capture significant changes over the course of the past decade, including, but not limited to, those caused by Russia's full-scale invasion of Ukraine.

The need to improve the quality of the national statistical base aligns with the latest trends in information and statistical support for research. Currently, when developing national indices for international comparisons—such as the National Human Development Assessment Methodology indices (State Statistics Service of Ukraine, 2020), developed in 2000—international standards have already been taken into account, including the **UN System of National Accounts 2008** (United Nations Statistics Division, n.d.) and **Regulation (EC) No 549/2013**, which regulates the **European System of National and Regional Accounts 2010** (European Parliament & Council of the European Union, 2013). At the same time, wartime conditions and prospects for Ukraine's integration into the EU create new analytical needs. The latest methodological approaches to assessing the dynamics and comparing territorial development indicators (particularly at regional, district, and local levels) must take into account the context of Ukraine's EU integration and the needs of post-war recovery. Furthermore, it is imperative to consider the far-reaching consequences of prolonged warfare, the imposition of martial law, the loss of human capital, economic and production capacities, financial resources, and natural resource potential, as well as the pressing needs of post-war reconstruction in the affected regions.

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