

HOW TO MEASURE COHESION IN THE EU?

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Summary

Cohesion is a very important precondition for implementing several EU internal and external policies such as functioning of the single market, Eurozone, Customs Union, Common commercial policy, Competition policy, Environmental policy, etc. Therefore, the accurate assessment of the scale of cohesion in the EU is one of the main tasks of European researchers and institutions. But to assess the development of the EU cohesion process and thereof the effectiveness of ongoing EU cohesion policy, it is necessary to introduce and assess the results of certain cohesion indicators. The article presents two approaches to the assessment of cohesion in the EU. The first approach, the so-called traditional approach, is based on understanding of the cohesion process mostly like a catch-up development of member states and regions lagging the EU average. The so-called new approach, which is introduced in the article, focuses on fitness and readiness of member states, regions, and citizens in the EU to function together as one single organism. A set of new criteria has been proposed by the author, grouped by the three types of cohesion in the EU: economic, social, and territorial.

Key words: cohesion, cohesion policy, cohesion indicators, European Union

JEL: C83, F15,

Introduction

It is well known that the term “cohesion” first appeared in research publications in the 17th century related to Physics and Chemistry. Cohesion is described as a force capable to hold together molecules of a chemical substance. Later, in the 20th century cohesion becomes a new meaning in the form of “social cohesion”, which is a force keeping together different social groups in a society, regardless of their ethnic, racial or gender differences (Stanley, 2003).

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In publications of EU institutions, it can be read that cohesion is “an Overall Value of the European Union” (European Committee of the Regions, 2021), but unfortunately the legal acts and other documents of the EU institutions lack a clear definition of the term "cohesion". It is only assumed that cohesion refers to the force that brings member states, regions, and people together. In Article 3 of the Treaty on European Union we can read that the union “...shall promote economic, social and territorial cohesion, and solidarity among member States” (European Union, 2012). Recently, public attention has focused on a new concept related to cohesion in the EU, namely the so-called cohesion spirit, assuming that it should cover, if not all, then almost all EU policies, similar to the approach already used to introduce environmental norms into all EU policies (European Committee of the Regions, 2021).

But why is exactly the correct evaluation of EU cohesion so important?

Firstly, because the EU's cohesion policy is quite expensive, and its effectiveness needs to be carefully monitored. According to the European Court of Auditors “the EU’s economic, social and territorial Cohesion policy accounts for around one third of overall spending under the EU budget” (European Court of Auditors, 2020, p. 4).

Secondly, because several EU policies depend strongly on the level of the EU cohesion (see table below).

Table 1: Main cohesion impacts on EU policies

	Impacts	Affected EU policies
Higher economic cohesion means...	Lower costs to comply with standards and safety requirements	Single market, Environment policy, Competition policy, Common agricultural policy, Common transport policy
	Greater convergence by economic cycle	Eurozone
	Greater similarity in export specialization	Customs union, Common commercial policy, Development policy
	Higher energy efficiency	Common energy policy, Climate change policy, Environment policy, Common foreign policy, Development policy
Higher social cohesion means...	Convergence of national social models and gradual establishment of a single EU social model	Social policy, Education policy, Health care policy, Budget policy, Eurozone
	Bridging the gap between Western and Eastern Europe	Common foreign policy, Common security and defence policy, Neighbourhood policy, Development policy, Single area of freedom, security, and justice

Higher territorial cohesion means...	Lower logistic and transport costs	Single market, Tourism, Customs union, Common commercial policy
	Lower costs for transmission of electricity and natural gas	Common energy policy, Climate change policy, Common foreign policy, Neighbourhood policy
	Better communications	Single market, Single information area, Education policy, Innovation policy
	Lower investment costs	Industrial policy, Single market, Budget policy, Eurozone, Innovation policy

Source: The author

And thirdly, because cohesion in the EU aims to correct imbalances between countries and regions and in this way to strengthen solidarity and justice and especially solidarity and justice are what the EU strongly needs in the present situation of high turbulences after Brexit and Covid-19 and in the time of the war in Ukraine.

Traditional approach to cohesion assessment

The most synthesized cohesion indicator is without doubt the indicator “GDP per capita”. It has been used to measure cohesion by several authors (Bal-Domańska, Sobczak, 2016; Hadjinikolov, 2017, etc.). The more similar the results of different member states or regions are, the stronger the cohesion is, and vice versa, the greater the deviations are from the average, the weaker the cohesion is. The main handy tool for measuring differences (or similarities) is mean average deviation (MAD) with the following formula:

$$MAD = \frac{1}{n} \sum_{i=1}^n [x_i - \mu]$$

where, $n = 28$ (the number of EU member states), x_i is the GDP per capita in the member state i , while μ is the mean size of GDP per capita in the EU.

In addition, the Coefficient of Variation can be calculated. The formula is:

$$CV = \frac{MAD}{\mu} \times 100 \quad \text{where, } \mu, \text{ represents the mean.}$$

Both of these instruments, of course, can be used also to establish differences (similarities) in other cohesion indicators like “People at risk of poverty and social exclusion”, “Export specialisation”, or even in such an indicator as “Total length of motorways (km) per 1000 km² territory.

Some authors use more complex models like Propensity Score Matching (PSM) (Bal-Domańska, Sobczak, 2016), Structural Equation Modelling (SEM) (Maucorps, Jestl, Römisch,

2020), Markov Chains Method (Begu, 2011), or Regression-Discontinuity Design (RDD) (Becker, Egger, Ehrlich, 2010). Regardless of how complex the method applied by the authors is, the goal is always similar - to determine the reduction or increase of differences between the subjects due to the EU cohesion process.

But why this traditional “catch-up approach” to cohesion estimation is not enough for decision making bodies and researchers? Because although catch-up development is an important sign of increasing cohesion, it is not really the core aim of the cohesion process in the EU. If we compare the German unification at the end of the last century with the cohesion process in the EU, we can say that the catch-up development of the eastern German Länder (provinces) was essential, but the main condition for the success of the unification was another - the creation of a functioning single economy, a functioning single social and political system. We can say that if the EU wants to become a single economic and political system it has to follow the way of the German unification and to use the Cohesion policy in the same direction as it was done in Germany in the late 90s. But if we formulate the goal of cohesion in this way, then we cannot accept the use of only criteria and methods that measure convergence (similarity) without considering the goal of the cohesion process. The United Kingdom, for example, was very close in several economic and social parameters to the core of the EU, and this did not prevent it from leaving the union.

What should be done?

In short, for measuring of all three types of cohesion in the EU, we should use not only criteria that measure degree of achieved structural homogeneity among member states and regions, reflecting in catch-up development, but we should use also criteria measuring achieved fitness of member states and regions to function together as one single organism.

There are already some significant achievements in this direction, such as the EU Cohesion Monitor. Several indicators, included in this instrument are oriented on the goal of the EU cohesion and not only to the catch-up aspect of cohesion. Such indicators are for example: “Citizens of other EU countries”, “Visited another EU country”, “Socialised with people from other EU countries”, “Trade in goods with the EU”, “Trade in services with the EU”, “Trade openness towards the EU”, “EU spending in country”, “Contribution to the EU budget”, “Number of opt-outs in policy integration”, “Single market transposition deficit”, “Single market infringements”, “Participation in multinational deployments”, “Multinational commands and forces” ((European Council on Foreign Relations, 2022).

At the same time, however, some criticisms can be made regarding EU Cohesion Monitor. Above all, too many criteria are based on the subjective assessment of the EU citizens surveyed. How Europeans feel about European integration is important, but no less important is whether there are objective prerequisites for achieving high cohesion. For example, citizens of a country like Albania may have a very positive perception of European integration, but does this mean that Albania is highly involved in the European cohesion process? That's why it would be good if more indicators were included in the monitoring, which are by relating statistics. Another critical note is that the monitoring lacks indicators to measure territorial cohesion in the EU. Greater attention should also be paid to the ability of not only citizens but also businesses to cooperate, as well as the effectiveness of European instruments to create a better business environment at the Union level.

Some proposals

Based on the postulate presented above for orienting the cohesion indicators towards the goal of cohesion, we could make some proposals.

Table 2: Proposals in the field of EU economic cohesion

Indicator	Affected EU policies
Schengen area population proportion to EU population	Internal labour market, Single visa policy, Common asylum policy
Euro area population proportion to EU population	Single monetary policy, Internal market for goods, services, and capital
Share of intra-Union FDI flow and stock	Capital markets union, Securitization of economy
Number of non-German EU companies listed on Frankfurt Stock Exchange	Capital markets union, Securitization of economy
Number of European Commission investigations into infringement of EU internal market rules	Competition policy, Internal market for goods, services, and capital
Number of European Commission investigations into infringement of EU customs union rules	Single customs policy, Common trade policy,
Number of enterprises included in European business register	Enterprise policy, Internal market for goods and services
Number of enterprises included in European patent register	Innovation policy, Enterprise policy, Internal market for goods and services

Source: The author

Table 3: Proposals in the field of EU social cohesion

Indicator	Affected EU policies
EU budget proportion to EU GDP	Social policy, Environment and climate change policy, Education, Healthcare, Europe in the world, European Neighbourhood Policy, Justice, and Home Affairs, etc.
Cohesion expenditures proportion to EU budget total expenditures	Social policy, Environment and climate change policy, Education, Healthcare, etc.
Share in EU employment by citizens of member state different from state of employment	Social policy, Enterprise policy, Competition policy
Share in EU total number of students by students of member state different from state of studying	Education, Innovation policy
Number of EU citizens receiving a pension from a member state different from state of permanent residence	Social policy, European Pillar of Social Rights
Value of medical services received in the EU by citizens different from state of permanent residency	Healthcare, European Pillar of Social Rights
Number of EU citizens supported by Union level programs for employment	Employment policy, European Pillar of Social Rights Action Plan
Number of Union level programs supporting healthcare in the EU	Healthcare, European Pillar of Social Rights

Source: The author

Table 4: Proposals in the field of EU territorial cohesion

Indicator	Affected EU policies
Length of completed cross-border transport corridors	Transport policy, Internal market for goods and services, Environment, and climate change policy
Average speed on cross-border transport corridors	Transport policy, Internal market for goods and services, Tourism policy
Length of completed cross-border gas pipelines	Energy union, Environment, and climate change policy
Share of intra-EU electricity exports in total EU electricity exports	Energy union, Environment, and climate change policy, Internal market for goods and services, Competition policy
Number of member states' violations of common rules in energy	Energy union, Environment, and climate change policy, Internal market for goods and services, Competition policy

Volume of data transmitted via intra-EU roaming	Internal market for goods and services, Competition policy, Consumer policy
Number of member states' violations of common rules in telecommunications	Internal market for goods and services, Competition policy, Consumer policy

Source: The author

Conclusions

- ✓ Cohesion in the EU has a very high economic, social and political price and therefore its precise assessment is a must.
- ✓ Traditional approach ("catch-up approach") is not enough for strict assessment of the level of cohesion in the EU.
- ✓ We must find criteria for measuring the fitness and readiness of member states, and regions to function together as one single organism.
- ✓ The specified criteria must cover all three forms of cohesion in the EU - economic, social, and territorial.

References

- Bal-Domańska, B., Sobczak, E., (2016), *On the Relationships between Smart Growth and Cohesion Indicators in the EU Countries*. Statistics in Transition, Vol. 17, No. 2, Wroclaw, pp. 249-264.
- Becker, S., Egger, P., Ehrlich, M. (2010) *Going NUTS: The effect of EU Structural Funds on regional performance*, Journal of Public Economics, 94 (9-10), pp. 578-590.
- Begu, L.-S. (2011) *Cohesion in the European Union – Used Markov Chains Method*, Review of General Management Volume 14, Issue 2, pp. 91 – 96.
- European Committee of the Regions (2021) *Cohesion as an Overall Value of the European Union*, Brussels.
- European Council on Foreign relations (2022) *EU Cohesion Monitor*. Available at: EU Cohesion Monitor – European Council on Foreign Relations (ecfr.eu). Accessed: 02.10,2022.
- European Court of Auditors (2020) *Implementing Cohesion policy: comparatively low costs, but insufficient information to assess simplification savings*, Special report 07, Luxembourg,
- European Union (2012) *Consolidated version of the Treaty on European Union*, Official Journal of the European Union, C326/17, 26.10.2012, Brussels.

Hadjinikolov, D. (2017) *Bulgaria in the EU Cohesion Process*, Economic Alternatives, 2017, Issue 2, pp. 213-225.

Maucorps, A., Jestl, S., Römisch, R. (2020) *The Effects of the EU Cohesion Policy on Regional Economic Growth: Using Structural Equation Modelling for Impact Assessment*, wiiw, Working Paper 185.

Stanley, D., (2003), *What Do We Know about Social Cohesion: The Research Perspective of the Federal Government's Social Cohesion Research Network*. The Canadian Journal of Sociology, Vol. 28, No. 1, Special Issue on Social Cohesion in Canada (Winter, 2003), Montréal, pp. 5-17.

Todorova-Petkova, S. (2021) *Problemi pred sblizhavaneto na planovite rajoni v Bulgaria*, Narodostopanski arhiv, (4), pp. 57-72 [Тодорова-Петкова, С. (2021) *Проблеми пред сближаването на плановете райони в България*, Народно стопански архив, (4), с. 57-72].