

## EUROPEAN FUNDS AND REGIONAL GDP DYNAMICS IN ROMANIA. CASE STUDY: NORTH-WEST REGION AND BIHOR COUNTY

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**Abstract:** *This paper analyzes the relationship between the absorption of European funds, regional GDP dynamics, and the processes of local and regional development in Romania, with a focus on the North-West Region and Bihor County. Based on data provided by the National Institute of Statistics for the period 2000–2022, the study explores how investments made through the Cohesion Policy have influenced local economic and social development. Against the backdrop of a European framework that promotes territorial convergence, the research highlights that while European funds can be an important engine of development, their impact on GDP and local development varies significantly depending on the institutional, economic, and social context of each region or county. In Bihor's case, a steady increase in GDP can be observed, along with persistent disparities when compared to counties such as Cluj, which has succeeded in building an innovation-driven economic model focused on high added-value services. The results show a positive correlation between attracted European funds and GDP growth, though not a directly proportional one. Thus, regional and local development cannot be assessed solely through GDP indicators, but must be examined in a broader framework that includes infrastructure, access to public services, social inclusion, administrative capacity, and quality of life. The paper argues that public policies should be grounded in an integrated approach, tailored to territorial needs, and that European funds must be aligned with clear objectives of sustainable, equitable, and balanced development.*

**Keywords:** *European funds, GDP, local development, regions, Bihor, convergence, cohesion*

**JEL classification:** *H72; H83; R51; R53*

### 1. Introduction

The European Union strengthens its economic, social, and territorial cohesion with the aim of promoting harmonious development across its entire territory. The EU is particularly focused on reducing disparities between the development levels of its various regions, by supporting public investment and strengthening the local capacity to absorb funding.

Gross Domestic Product (GDP) dynamics are often used as a key indicator of economic progress. In the context of the European Union's Cohesion Policy, structural and investment funds are the main financial instruments aimed at reducing regional disparities and stimulating balanced development (Barca, 2009). This paper investigates the relationship between the absorption of European funds and the evolution of GDP in Romania, with a particular focus on the North-West Region and Bihor County, where major infrastructure, energy, and public administration projects have been implemented.

The analysis is based on: official data from the National Institute of Statistics (INS) regarding regional and county-level GDP (2000–2022); comparative charts between the North-West Region and other development regions; the evolution of nominal GDP and GDP per capita; correlations between the amounts of European funds absorbed and GDP dynamics and European studies and reports on economic cohesion (European Commission, 2022).

## **2. Literature review**

This approach is supported by the work of Pike, Rodríguez-Pose, and Tomaney (2017), who argue that regional development should not be seen solely in terms of economic growth, but also in terms of the equitable distribution of opportunities and resources. Stimson, Stough, and Roberts (2006) emphasize the importance of integrating economic, social, environmental, and institutional dimensions in regional planning processes.

Under the Cohesion Policy framework, the European Union defines regional and local development as processes aimed at achieving sustainable economic growth, social inclusion, and job creation by leveraging the endogenous potential of territories. In the European Commission's strategic documents, local development is viewed as a key component of territorial cohesion and democratic participation, emphasizing multi-level governance, partnerships, and community involvement in defining strategic directions. Through concepts such as "Community-Led Local Development" (CLLD), the EU promotes a bottom-up approach aimed at tailoring interventions to the real needs of territories, offering an alternative to top-down policy models.

In the official understanding, regional development is a sustained process of economic growth and improvement in living conditions in a given region, aimed at reducing territorial disparities, strengthening cohesion, and capitalizing on local potential. In Romania, according to Law no. 315/2004 on regional development, the concept is defined as a set of public policies, measures, and institutional initiatives that seek the balanced development of regions by attracting investments and creating jobs.

In academic literature, regional development is perceived more comprehensively—as a multidimensional process involving not only economic growth (e.g., GDP increases) but also social, cultural, ecological, and institutional aspects. It implies the mobilization of local resources, community engagement, and the development of a functional institutional framework adapted to territorial specificities (Rodríguez-Pose, 2015; Barca, 2009).

Similarly, local development is described as the process through which local communities harness their own resources and build tailored development strategies through public participation, local leadership, and vertical policy integration. This bottom-up approach is increasingly reflected in modern European policies, including the LEADER method and Integrated Local Development Strategies.

Examples of concrete investment priorities outlined in Romania's 2021–2027 Partnership Agreement include: the development of sustainable and connected transport infrastructure, support for the green and digital transition, modernization of education and vocational training systems, strengthening research and innovation, promoting social inclusion and poverty reduction, and enhancing administrative capacity at the local and regional level. These directions are implemented through thematic and regional operational programs, designed to reflect territorial specificities and respond to regional challenges.

The 2021–2027 Partnership Agreement between Romania and the European Commission also sets clear priorities for reducing regional disparities, promoting the green and digital transition, supporting SME competitiveness, and fostering sustainable urban development and social inclusion. These priorities align with the European Pillar of Social Rights, which stresses equal opportunities, fair access to services, and decent working conditions.

The European Union's Cohesion Policy is a key instrument in pursuing harmonious, sustainable, and equitable development across all regions of Europe. According to the Treaty on the Functioning of the European Union (Art. 174), economic, social, and territorial cohesion is a core objective, aiming to reduce disparities in development levels between regions—particularly those disadvantaged or affected by economic transition.

Specialized studies highlight that the impact of European funds on economic growth is influenced by institutional factors, administrative capacity, and the effectiveness of local development strategies (Rodríguez-Pose & Garcilazo, 2015). In the literature, regional convergence is examined both in terms of GDP per capita and quality of life (Mohl & Hagen, 2010). Moreover, local development involves not only economic growth but also improvements in infrastructure, public services, social inclusion, and the capacity of communities to generate their own solutions. Thus, GDP is an important quantitative indicator, but not sufficient to capture the complexity of development (OECD, 2020). In Romania, EU funds have often acted as catalysts for essential public investments (Ionescu & Constantin, 2020), yet the effects on sustainable development differ significantly across counties.

### **3. Empirical Analysis: The Case of the North-West Region and Bihor County**

In addition to European funds absorbed and public projects implemented in Bihor County, a key contribution to the area's economic development comes from strategic private investments with national and regional impact. Among these is the expansion of Michelin's operations in the industrial zone of Oradea, strengthening the automotive production sector. Likewise, the announcement of a major Lockheed Martin investment in Bihor—in a defense manufacturing facility—reconfirms the county's strategic potential in attracting global investors. These investments

generate multiplier effects, contributing both to local employment and GDP, while complementing the efforts of the public administration in infrastructure modernization and the creation of a competitive investment climate.

To better highlight intraregional disparities and support comparative analysis, it is relevant to examine, alongside Bihor and Cluj counties, Satu Mare County as well. This county provides a significant contrast, with a more modest GDP evolution and an economic profile based on manufacturing and cross-border trade. In 2022, GDP per capita in Satu Mare was approximately 42,800 lei—well below Cluj's level (99,400 lei) but close to Bihor's (49,600 lei). This intermediate positioning underscores the need for differentiated strategies within the same development region. While Cluj has capitalized on its innovation and university ecosystem, and Bihor has invested heavily in infrastructure and public administration, Satu Mare holds growth potential through the strengthening of its logistic role and regional connectivity.

Analysis of charts and data from the National Institute of Statistics for the period 2000–2022 reveals several key aspects regarding GDP dynamics and implications for regional and local development: generalized but uneven growth across regions, North-West region – strong but polarized growth, Bihor County – steady growth, but lagging behind Cluj County and Correlation with European Funds.

### Generalized but uneven growth across regions

All development regions in Romania experienced continuous GDP growth. However, the Bucharest-Ilfov Region clearly stands out, exceeding 150 billion lei in 2022, compared to approximately 60 billion lei in regions like the North-West or Centre. This disparity underscores an excessive concentration of development around the capital city, despite the EU's efforts for convergence.

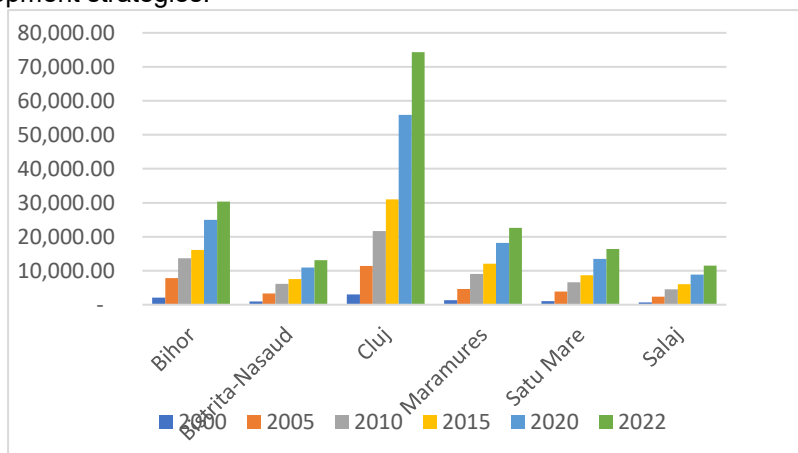
**Table 1:** Analysis of the nominal gross domestic product variation in Romania's regions (millions of lei)

| Nominal GDP               | 2000      | 2005      | 2010       | 2015       | 2020       | 2022       |
|---------------------------|-----------|-----------|------------|------------|------------|------------|
| North West Region         | 9,121.70  | 33,456.50 | 61,796.30  | 81,531.10  | 132,428.30 | 168,235.90 |
| Center Region             | 9,780.50  | 32,228.20 | 61,918.00  | 79,102.50  | 121,681.50 | 151,799.10 |
| North East Region         | 9,553.50  | 31,814.80 | 57,764.50  | 71,814.80  | 115,421.50 | 140,470.10 |
| South East Region         | 9,523.80  | 32,555.90 | 57,258.00  | 76,118.30  | 102,878.40 | 135,182.60 |
| South Region Muntenia     | 9,909.70  | 36,253.40 | 67,289.30  | 87,188.80  | 120,549.80 | 160,933.00 |
| Bucharest Ilfov Region    | 18,261.50 | 69,258.50 | 136,487.80 | 195,911.10 | 296,274.50 | 400,993.40 |
| South West Region Oltenia | 7,036.10  | 23,150.60 | 42,379.30  | 52,222.70  | 81,220.60  | 108,430.50 |
| West Region               | 7,577.60  | 27,938.20 | 54,902.30  | 68,089.20  | 98,423.40  | 122,477.30 |

**Source:** Romanian national institute of statistics, (2025) - regional gross domestic product in Romania, <http://statistici.insse.ro/>

### North-West region – strong but polarized growth

The North-West Region showed significant growth, with GDP rising from 15.8 billion lei in 2000 to over 62 billion lei in 2022. However, county-level data reveal a strong economic polarization, with Cluj in a dominant position: Cluj surpassed the 100,000 lei GDP per capita threshold in 2022. Bihor, Satu Mare, Maramureș, Sălaj, and Bistrița-Năsăud remained between 40,000 and 50,000 lei per capita. This disparity raises questions about the efficiency of using European funds in relation to local development strategies.



**Figure 1:** Analysis of the nominal gross domestic product variation in the North West Region (millions of lei)

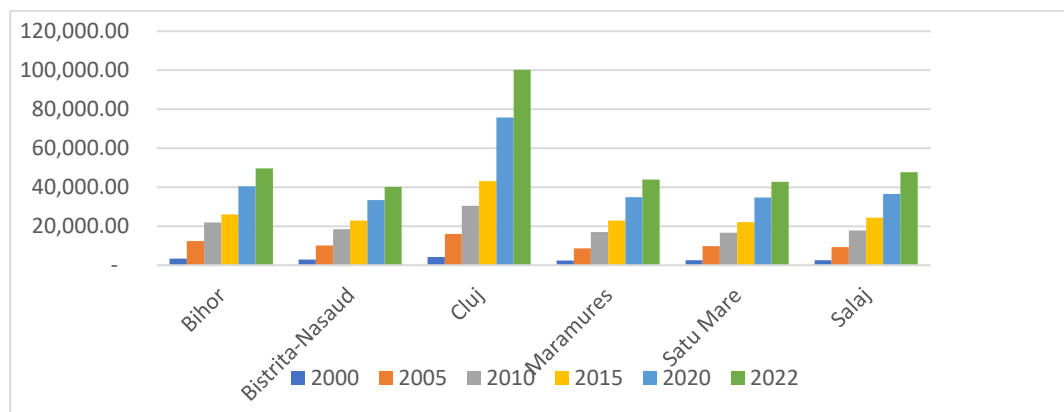
**Source:** Romanian national institute of statistics, (2025) - regional gross domestic product in Romania, <http://statistici.insse.ro/>

Bihor County – steady growth, but lagging behind Cluj County  
Bihor's GDP per capita increased from 3,228 lei (2000) to 49,601 lei (2022), indicating significant progress. However, the gap with Cluj has nearly doubled during this period, suggesting that Bihor's development model, based on public investments and EU funding, did not generate the same economic dynamics as Cluj's innovation and private investment-driven growth.

**Table 2: Analysis of the nominal gross domestic product variation in Romania's regions (millions of lei)**

| GDP per capita (lei)      | 2000     | 2005      | 2010      | 2015      | 2020      | 2022       |
|---------------------------|----------|-----------|-----------|-----------|-----------|------------|
| North West Region         | 3,149.39 | 11,693.29 | 21,677.64 | 28,706.14 | 46,724.42 | 59,739.60  |
| Center Region             | 3,666.50 | 12,135.75 | 23,362.22 | 29,963.18 | 46,273.50 | 58,157.77  |
| North East Region         | 2,459.87 | 8,160.30  | 14,850.41 | 18,297.43 | 28,795.91 | 35,082.85  |
| South East Region         | 3,189.26 | 10,981.11 | 19,474.23 | 26,346.14 | 36,540.80 | 48,745.00  |
| South Region Muntenia     | 2,842.20 | 10,586.58 | 19,974.82 | 26,552.88 | 38,040.64 | 51,944.12  |
| Bucharest Ilfov Region    | 7,508.38 | 28,426.58 | 55,063.96 | 78,732.12 | 113,588.8 | 151,594.11 |
| South West Region Oltenia | 2,938.22 | 9,851.73  | 18,490.02 | 23,480.21 | 37,825.77 | 51,488.55  |
| West Region               | 3,646.56 | 13,578.80 | 26,839.44 | 33,663.41 | 49,220.49 | 61,991.76  |

**Source:** Romanian national institute of statistics, (2025) - regional gross domestic product in Romania, <http://statistici.insse.ro/>



**Figure 2: Analysis of the variation of the nominal gross domestic product per capita in the North West Region (lei)**

**Source:** Romanian national institute of statistics, (2025) - regional gross domestic product in Romania, <http://statistici.insse.ro/>

### Correlation with European Funds

European funds have supported important projects in infrastructure, energy, urban development, and digitalization, particularly in Oradea and Bihor. Still, data show that absorbing EU funds does not automatically lead to accelerated economic growth. The impact depends on the quality of investments, their integration into coherent local strategies, and the ability to attract private capital.

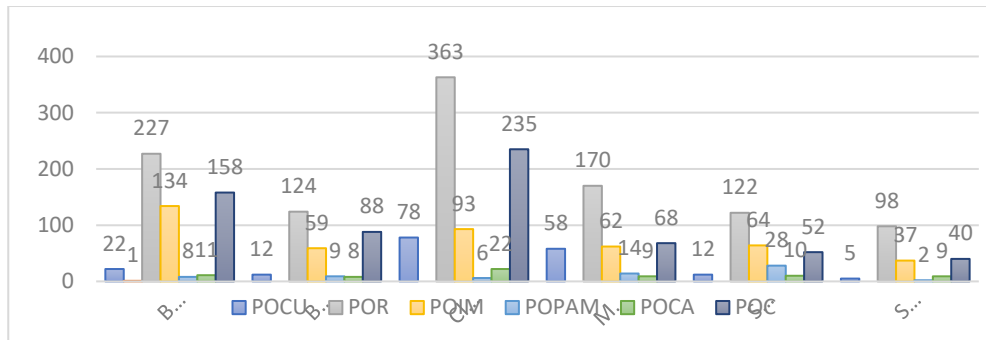
**Table 3: Eligible budget in the programming period 2014 - 2020 (millions of euros)**

| County          | POCU  | POR    | POIM   | POPAM | POCA | POC    | TOTAL    |
|-----------------|-------|--------|--------|-------|------|--------|----------|
| Bihor           | 15.49 | 416.10 | 474.70 | 8.21  | 3.04 | 68.94  | 986.48   |
| Bistrita-Nasaud | 24.98 | 371.20 | 266.50 | 4.801 | 2.30 | 39.15  | 708.93   |
| Cluj            | 73.66 | 887.70 | 337.90 | 4.25  | 8.52 | 204.40 | 1,516.43 |
| Maramures       | 85.64 | 278.30 | 319.20 | 12.11 | 3.80 | 59.76  | 758.81   |
| Satu Mare       | 11.99 | 162.50 | 330.40 | 12.72 | 2.78 | 24.10  | 544.49   |
| Salaj           | 13.10 | 225.30 | 29.27  | 5.37  | 2.00 | 16.00  | 291.04   |

**Source:** Ministry of European Investments and Projects (2025), statistics on the absorption of European funds in 2014 – 2020, <https://www.fonduri-ue.ro/statistici>

The North-West Region has experienced substantial GDP growth over the past two decades, yet county-level analysis shows considerable internal disparities. Cluj stands out with an economy based on IT, services, and innovation (Crescenzi & Giua, 2016). In contrast, Bihor, though successful in attracting EU funds, did not experience the same growth acceleration. Charts analyzed show a steady rise in Bihor's GDP, but the gap with Cluj widened, raising questions about the type of investments made and the sustainability of development (Zaman & Georgescu, 2015). Beyond GDP, Bihor's local development has improved significantly in terms

of public services, urban mobility, and administrative modernization, although these aspects are not always directly reflected in macroeconomic indicators.



**Figure 3: Number of financing contracts signed in the programming period 2014 - 2020**

**Source:** Ministry of European Investments and Projects (2025), statistics on the absorption of European funds in 2014 – 2020, <https://www.fonduri-ue.ro/statistici>

#### 4. Results and Discussions

Recent studies confirm that structural funds can have a positive impact on regional convergence, but this impact is often conditional upon governance quality and local administrative capacity (Dall'erba & Le Gallo, 2008). Additionally, the classical analysis by Sala-i-Martin (1996) points out that genuine convergence involves not only reducing GDP per capita differences but also long-term structural integration and institutional adaptation.

The data indicate a positive correlation between European funds and GDP growth, but not a direct proportional relationship. Economic growth also depends on the structure of the local economy and the ability of authorities to steer investments toward high value-added sectors (Boldrin & Canova, 2001). The case of Bihor shows that, in the absence of a strong entrepreneurial and innovative ecosystem, European funds can support infrastructure and public services but do not guarantee economic convergence (Ilie & Gherghina, 2018). At the same time, regional development entails reducing territorial inequalities, improving connectivity, and enhancing quality of life—dimensions that must be evaluated alongside GDP evolution to assess real progress.

#### 5. Limitations

This study has several limitations that should be acknowledged. First, the analysis is based primarily on quantitative data (GDP and EU funds absorbed), which, while useful, do not fully capture the multidimensional nature of local and regional development. Second, the correlation between European funds and GDP growth is explored at a descriptive level, without employing advanced econometric

techniques to determine causality. Additionally, the study does not account for time lags between fund absorption and economic impact, which may vary significantly depending on project type and regional absorption capacity. The heterogeneity of counties, in terms of economic structure, administrative performance, and access to complementary investments, also limits the generalizability of findings. Moreover, data availability at a disaggregated level for certain indicators (such as employment in innovative sectors or quality of life indices) remains a challenge. Future research could expand the analysis using panel data econometrics and qualitative case studies to better understand the mechanisms through which European funds influence territorial development.

## 6. Conclusion

The conclusions highlight that local and regional development, in its complex meaning, involves more than just measurable economic growth through GDP. It represents a territorial transformation process aimed at reducing inequalities, harnessing endogenous potential, and increasing the capacity of communities to generate sustainable solutions. Therefore, public policies should integrate a long-term vision based on integrated, participatory development tailored to the specific needs of each region.

For European funds to have a real impact on local development, territorial strategies must be personalized, considering the economic and institutional specificities of each county. In the case of Bihor, the focus should be on stimulating SMEs, digitalization, and innovation, alongside continued infrastructure development (OECD, 2020). Post-2027 Cohesion Policy should encourage integrated initiatives that link funding to real development indicators (Ministry of European Investments and Projects, 2023). The success of these policies should not be evaluated solely by GDP growth, but also by improvements in quality of life, sustainability, and territorial equity.

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