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# CROATIA'S CONVERGENCE WITH THE EU AND CEECS: BALANCING ECONOMIC GROWTH AND WELL-BEING

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### *Abstract*

*This study examines the impact of EU Cohesion Policy on Croatia's socio-economic development since its 2013 accession, focusing on its convergence with Central and Eastern European and Southern Member States relative to the Old Member States and the EU-27. Using 11 indicators across four dimensions – techno-economic performance, innovation, institutional quality, and well-being – the study benchmarks progress against Old MS and EU-27 averages in selected indicators. The results show that the CEECs and Croatia have outpaced the Old MS in most indicators, demonstrating both their convergence with the latter and their role as key drivers of economic and social progress within the EU. However, despite this progress, they continue to lag the Old MS and EU-27 averages in all dimensions, with the widest gaps in institutional quality and well-being. This highlights that robust economic growth has not been fully translated into improvements in the non-economic dimensions of development.*

**Keywords:** cohesion policy, Croatia, CEECs, convergence, well-being, institutional quality



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## 1. INTRODUCTION

This research examines Croatia's progress in achieving socio-economic and institutional convergence with the European union (EU-27), following its accession as the EU's newest member state on 1 July 2013. The aim is to analyse and assess the impact of EU cohesion policy on Croatia's development and to determine how its progress aligns with or diverges from the different groups of the EU member states in four key areas of techno- economic development, innovation performance, institutional quality, and overall well-being. As one of the least developed member states – alongside Romania and Bulgaria – Croatia's development path is assessed through a comparative analysis of 12 long-standing old EU member states (Old MS) and the remaining cohesion countries that joined during earlier enlargements, which consists of two Southern European member states (Greece and Portugal) (Southern MS), two Mediterranean countries (Cyprus and Malta), and 11 Central and Eastern European countries (Bulgaria, Czechia, Estonia, Croatia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, and Slovenia) (CEECs). For the sake of clearer comparison and a more straightforward statistical analysis, Malta and Cyprus are classified within the CEECs group as they joined the EU in 2004 alongside the other CEECs.

By focusing on Croatia, the analysis also evaluates the extent to which the Cohesion countries, especially CEECs have converged with both the average of the Old MS and EU-27 as a whole.

According to the recent macroeconomic analyses of the European Commission (2024a), Cohesion Policy generates strong positive effects across the EU, particularly in cohesion countries. In the CEECs, GDP per capita (GDP p/c) rose from 52% of the EU average in 2004 to nearly 80% in 2021, halving the gap). For Croatia, national GDP could be up to 8% higher by 2030, with Cohesion Policy contributing about 4% of national GDP between 2014–2020. Under the 2021–2027 Partnership Agreement, it will receive €24.5 billion in total EU funds – around one-third of 2023 GDP – supporting economic growth, social development, and reduced disparities. Cohesion Policy accounts for around 51% of total government investment in less developed MS (European Commission, 2024a), while EU funding constitutes the primary source of public investment in Croatia (Puljiz, Maleković & Biondić, 2024). Its influence extends beyond economic growth to a wide range of development priorities, including education, innovation, and competitiveness. This study therefore assumes Cohesion Policy has been the main driver of Croatia's development, without which progress would have been slower.

However, it remains unclear to what extent Croatia has reached the average socio-economic standard of the Old MS, the EU as a whole, and, in particular its peers among the CEECs. To address this gap, the present study examines the degree of convergence between Cohesion countries - specifically the CEECs and Southern MS - with the Old MS and the EU, in order to assess Croatia's position within these reference groups.

Moreover, most research on the impact of Cohesion Policy has concentrated on economic outcomes, particularly GDP growth and innovation, while its effects on institutional quality – beyond the technical management of cohesion funds – and on broader social dimensions such as well-being remain underexplored. To address this gap, the present study examines convergence in well-being and institutional quality as distinct analytical dimensions, assessed through dedicated indicators.

In this context, the success of convergence is evaluated by benchmarking their performance against the average levels of the Old MS and the EU-27, using 11 key statistical indicators in four dimensions: techno-economic performance, innovation performance, institutional quality, and well-being (Table 1, columns 1 and 2).

The findings indicate that, over the past decade, the Cohesion countries have emerged as the main driver of economic growth and social progress within the EU. Nevertheless, apart from certain individual cases, none of these countries have reached the average level of techno-economic, innovation, social, or institutional development of the EU-27 or the Old MS.

The findings of this research underscore a decade-old thesis by Epstein and Jacobi's (2014, p. 2) which argues that enlargement has made the CEECs relatively wealthier compared to the Old MS, but not equal, nor will they ever be. Likewise, Gyorffy (2020, p. 91) suggests that convergence with the Old and developed MS may remain elusive despite substantial GDP gains. Volintiru et al. (2024) further contend that the East-West divide in Europe persists, driven not only by economic disparities but also by political tensions, democratic backsliding, and emerging geopolitical dynamics.

In this context, the research begins with two initial theses: First, Croatia's substantial growth in GDP p/c - often presented in public discourse as evidence of overall socio-economic progress - has obscured a slow pace of convergence with the Old MS and the EU-27 in techno-economic, social, and institutional domains. Second, the gains in GDP p/c have not translated into significant improvements in either institutional quality or citizens' well-being.

The research questions are as follows:

- To what extent has Croatia and the CEECs converged with the averages of the EU-27 and the Old MS across four key dimensions of development: techno-economic performance, innovation capacity, institutional quality, and well-being?
- Is Croatia more successful in convergence than the CEECs, and if so, in which specific aspects?
- Is the increase in techno-economic and innovation performance indicators reflected in a better standard of living and quality of institutions?

The study's contributions can be summarized as follows: First, the study provides an initial assessment of convergence between the Cohesion countries (including Croatia), the Old Member States, and the EU-27. Lacking a unified framework for measuring convergence, it defines the process simply as the Cohesion countries' "catching up" with EU-27 and Old MS averages across 11 key indicators. Second, results show that the Old MS have largely stagnated, while the Cohesion countries have advanced more in both economic (e.g., GDP per capita) and social (e.g., wages) dimensions. Third, this indicates that the Cohesion countries have become the main drivers of EU growth and social progress. Fourth, despite these gains, they – including Croatia – still lag behind the Old MS and EU-27, in all factors, particularly in institutional quality and well-being. Fifth, Croatia's convergence remains slow, especially compared with faster-advancing CEECs like Romania and Bulgaria. Sixth, compared to the CEECs, Croatia has caught up in factors such as digitalization and innovation, but this has had little impact on narrowing Croatia's gaps with the CEECs in economic growth, institutional quality, or well-being. Finally, strong economic growth in the Cohesion countries, including Croatia, has not been matched by equivalent progress in social and institutional development raising doubts about the effectiveness of Cohesion Policy in promoting sustainable convergence.

The article is structured as follows: Section 2 reviews relevant literature that forms the theoretical background for the research; Section 3 explains the methodology for empirical research; Section 4 presents empirical data and findings by four selected factors; Section 5 concludes.

## 2. LITERATURE REVIEW

Research on the impact of Cohesion Policy on long-term regional prosperity is extensive, covering a wide range of themes, methods, and spatial scales, and using tools from econometric models and policy evaluations to counterfactual analyses. However, the diversity of approaches makes findings complex (Crescenzi and Giua, 2017; Fratesi and Wishlade, 2017), often controversial (Dall-Erba and Fang, 2017), and ultimately inconclusive (Bachtrögler et al., 2020; Berkowitz, Monfort & Pienkowski, 2020; Di Caro and Fratesi, 2022; Vukašina, Kersan-Škabić & Orlić, 2022).

While some studies question the long-term impact of Cohesion Policy (Mogila et al., 2022; Jagodka & Snarska, 2023; Bayramov et al., 2023), others emphasize its role in fostering growth and business development (Amendolagine, Prota, & Serlenga, 2024, Caldas, Dollery & Marques, 2018), particularly in less developed regions (Crucitti, 2024; Bachtrögler, Fratesi & Perucca, 2020). However, some evidence suggests that much of the growth accrues to advanced economies such as Germany and the UK (Crescenzi and Giua, 2020). Di Caro and Fratesi (2022) report mixed results, with effectiveness shaped by contextual factors like national development levels and technological maturity. Vukašina et al. (2022) indicates that the European Structural and Investment Funds (ESIFs) - Cohesion

Policy's main finding tool - have a significant, positive, yet relatively small effect on the 12 new EU member states, suggesting that these countries should be cautious about relying on ESIFs as their primary driver of economic progress. Macroeconomic models of the European Commission (2024a) suggest that GDP in Croatia could be up to 8% higher by 2030 due to Cohesion Policy and 3.3 – 4.3% higher by 2026 from the National Recovery and Resilience Plan.

Empirical studies on the impact of ESIFs on Croatia's socio-economic development are scarce and yield mixed results. Rudelić, Drezgić, and Olgić Draženović (2025) find that less developed Croatian counties exhibit increased absorption of ESIFs, but they also report no significant effect of contracted ESI funds on regional economic growth. In contrast, Mikulić (2025) reports a positive short-term impact, with total economic activity in 2023 rising by 2.3%. However, as investments are concentrated in construction and the public sector, they may not foster long-term structural transformation. Perović, Bosna, and Vištica (2022) argue that EU funds have substantially contributed to economic growth at both the national and county levels. In a similar vein, Malešević & Lerga (2020) view ESIFs as a highly effective tool for promoting long-term development in Croatia, particularly during periods of limited credit availability and constrained public resources. Čučković, Vučković, and Jurlin (2024) note that Croatia's macroeconomic competitiveness and performance improved significantly after joining the EU. However, their study, does not establish a causal link between EU accession and economic development, as this would require sophisticated econometric analysis. They conclude that throughout the decade from 2013 to 2023, external shocks – such as the COVID-19 pandemic and geopolitical instabilities – together with incomplete structural reforms, prevented the Croatia's economy from fully benefiting from EU membership, unlike peer countries such as Romania, which grew much faster.

Cohesion Policy's efficiency depends on administrative capacity and institutional quality, yet political interference, clientelism, instability, and corruption can limit outcomes, while internal (e.g., leadership, human resources) and external factors (e.g., legal stability, ideology) shape absorption, with government quality key for convergence (Host, Zaninović & Parat, 2017; Polverari, 2023; Bachtler et al., 2024; Mendez and Bachtler, 2024; Incaltarau, Pascariu & Surubaru, 2020). The policy can also strengthen institutions by promoting European norms and practices (Radaealli, 2023; Caldas, Dollery & Marques, 2018). However, economic gains rarely translate into social improvements and well-being. Studies in Eastern Europe show limited effects on poverty, health, education, and inclusion (Ociepa-Kicinska et al., 2021; Paun, 2014), and post-Communist countries lag behind the EU despite GDP convergence (Albanese, 2021; Gyorffy, 2020; Draghi, 2024).

Most policy evaluation studies agree that Cohesion Policy has strongly influenced Croatia's economic growth, especially after 2018 (Puljiz, Maleković & Keser, 2019; Puljiz et al., 2024; European Commission, 2024a; World Bank, 2024). A brief overview of the achievements of Cohesion Policy 2014 – 2020 (European

Union, 2024) revealed that it was vital for enhancing various areas of socio-economic development, including scientific research, health protection, transport, island accessibility, and business competitiveness. However, improvements in social policy - wages, working conditions, and social dialogue - were limited (Babić & Račić, 2024; Laleta, 2022). While public administration transparency, economic competitiveness, and financial consolidation improved (Puljiz et al., 2024), legal, social, and green reforms, media pluralism, and emigration remain challenges, leaving Croatia dependent on EU institutions and socio-economic policies.

### 3. METHODOLOGY

The empirical research is based on a statistical time series dataset comprising 11 indicators, primarily sourced from EUROSTAT, covering Croatia's first ten years as an EU member (2013–2023) with minor variations depending on data availability. These indicators are organized into four convergence factors: techno-economic, innovation, institutional quality, and well-being given in Table 1 (columns 1 and 2). In the absence of a comprehensive analytical and normative framework for assessing convergence, this study adopts a simple theoretical approach, defining convergence as the process by which the Cohesion countries "catch up" to the average values of the EU-27 and Old MS across selected key indicators. The analysis includes 12 Old MSs and 11 CEECs, which incorporate 2 Mediterranean countries. The United Kingdom is not included, as it left the EU in 2020.

Literature reviews of integration processes, included in many scholarly analyses (e.g., Dall-Erba and Fang, 2017; Vukašina et al., 2022), demonstrate that econometric and quantitative studies on the impact of ESIFs on integration vary significantly in terms of sample, methodology, type of investment, covered period, and other factors. This highlights the difficulty of predicting the effects of ESIFs, as results differ depending on these various aspects of integration analysis. The literature also shows that a common theoretical and methodological framework for assessing convergence does not exist. Similarly, recent empirical studies on the impact of ESIFs on Croatian development (Rudelić et al., 2025; Mikulić, 2025; Perović et al., 2022; Malešević & Lerga, 2020; Čučković et al., 2024) indicate that the choice of indicators for measuring impact is subjective, with each study defining its own set of indicators to evaluate the effects.

The main criteria for selecting indicators in this research, in addition to a subjective assessment of their relevance for each of the four convergence factors, are availability (data accessible for all included countries), timeliness (presence of time-series data), credibility (use of Eurostat and other globally recognized data sources), and feasibility (data that can be collected and analysed with affordable effort).

While this approach may be subject to criticism for its simplicity and insufficient time-lag, the study aims to provide a ground for policymakers, encouraging them to shift their focus from purely economic assessments such as financial growth and per capita income, toward a more holistic understanding of progress.

#### 4. RESULTS AND DISCUSSION

The convergence success of the Cohesion countries, including Croatia, is evident in their achievement of average levels across key indicators of techno-economic, innovation, institutional, and social development, comparable to those of the Old MS and the EU-27 overall. A summary overview of the results is presented in Table 1 (columns 3 and 4), with the following subsections offering a more detailed discussion of the statistical indicators.

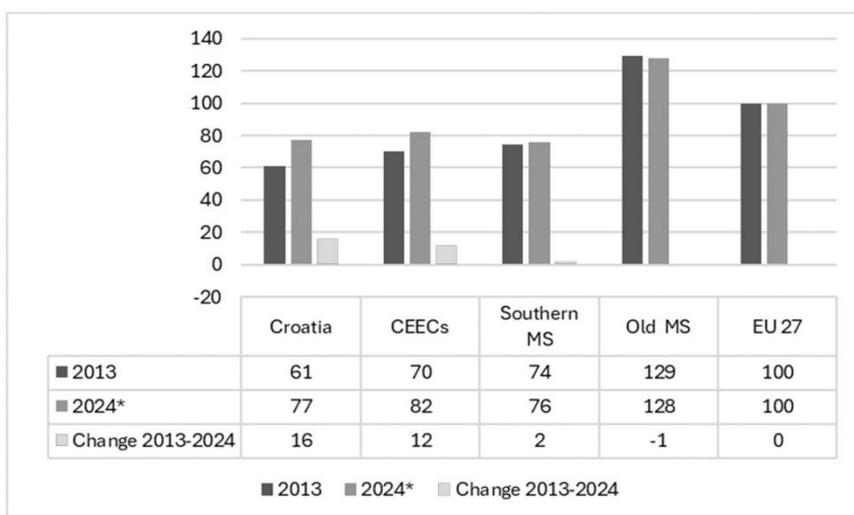
Table 1 A list of key convergence indicators assessing the progress of the Cohesion Countries and Croatia toward the average values of the EU-27 and Old MS

Indicators	Source and period	Convergence of the Cohesion countries (CCs) toward EU & Old MS averages	Convergence of Croatia toward CEECs average
GDP growth p/c	Eurostat, 2013–2024	All CCs grew faster than Old MS but did not reach the average values of the Old MS or EU-27 (except Malta).	Croatia did not reach the CEECs average.
Labour productivity per person	Eurostat, 2013–2022	Southern MS and the Old MS declined; CEECs and Croatia grew, but none of the CCs reached the EU-27 or Old MS average.	Croatia slightly outperformed the CEECs average (+0.3%).
High-tech exports	Eurostat, 2013–2022	CCs reached only about half the export level of the Old MS and EU-27.	Croatia reached only about half the CEECs average.
Innovativeness	European Summary Innovation Index, 2017 & 2024	CCs grew faster than the EU-27 and the Old MS, but none reached their average.	Croatia did not reach the CEECs average.
Digitalization	European DESI Index, 2017–2022	CCs grew faster than the EU-27 and the Old MS, but none reached their average.	Croatia surpassed the CEECs average by 1.08 points.
R&D expenditures by BES	Eurostat, 2013–2023	All countries grew, but none of the CEECs reached even half the Old MS or EU-27 average.	Croatia outperformed the CEECs average by 0.5%.
Rule of law	World Justice Project, Rule of Law Index	All countries regressed, especially Croatia and the CEECs. None of the CCs reached the EU-27 or the Old MS average.	Croatia did not reach the CEECs average.
Corruption	Transparency International, Corruption Perceptions Index	All countries declined or stagnated. None of the CCs reached the EU-27 or Old MS average.	Croatia did not reach the CEECs average.
Average net salaries	Eurostat, 2013–2024	CCs grew faster than the EU-27 and the Old MS, but none reached their average.	Croatia did not reach the CEECs average.
GDP share of pension expenditures	Eurostat, 2013–2022	CEECs and Croatia did not reach the EU-27 or the Old MS average, but Southern MS surpassed it.	Croatia outperformed the CEECs average by 0.9%.
Social Progress Index	Aiti Global Social Progress Index	None of the CCs reached the EU-27 or the Old MS average.	Croatia did not reach the CEECs average.

Source: Author's compilation based on the statistical time series dataset

#### 4.1. Techno-economic factors

Since 2000, many Old MS have experienced stagnation or decline such as parts of Greece, Italy or northeastern France (European Commission, 2024b, p.11) while CEECs have exhibited significant economic dynamism and resilience, narrowing the GDP p/c gap with the EU average from 52% in 2004 to over 80% in 2024 (Eurostat, 2024; European Commission, 2024a). Despite this impressive convergence towards the EU average over the past decade, and the stagnation in GDP p/c growth among the Old MS (Figure 1), none of the CEECs have yet surpassed the EU average. Malta is the only exception at 109%, with Czechia and Slovenia close behind at 91%. Despite this convergence, the Old MS still hold a clear lead, with Luxembourg and Ireland at 241% and 211% of the EU average, highlighting persistent disparities.



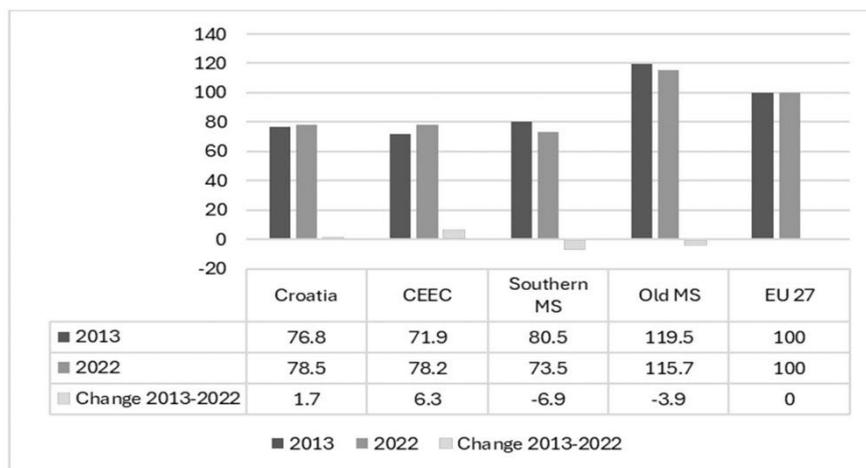
\*Provisional data

Figure 1 GDP per capita in PPS, 2013 and 2024, EU27\_2020=100

Source: Eurostat (2026a)

Croatia has benefited substantially from EU Cohesion Policy and European funds, fuelling growth since its 2013 accession. Its GDP p/c rose by 16% in purchasing power standards to 77% of the EU average in 2024 (Figure 1), with particularly strong growth during the COVID-19 crisis (3.73%). Despite this progress, Croatia lags behind the CEECs average of 82% and ranks among the EU's least developed members, ahead only of Bulgaria (66%), Latvia (71%), and Slovakia (75%). Peers like Romania, Bulgaria or Malta have advanced faster, though Croatia outperformed Estonia (+3%) and Slovakia (-2%).

GDP p/c growth relies on labour productivity, which has remained weak in the EU for three decades, lagging behind the US and China (Draghi, 2024). The gap is pronounced in the Old MS, which underperformed the EU-27 average by 3.9% between 2013–2022 (excluding Ireland), with Southern states lagging further at –6.9% (Figure 2). By contrast, productivity grew in the CEECs (+6.3%) and modestly in Croatia (+1.7%), yet neither has reached the EU average (Figure 2).



Note: Malta and France excluded for lack of data; Ireland excluded due to 85% productivity growth (2013–2022) distorting the Old MS' average.

Figure 2 Nominal labour productivity per person, 2013 and 2022, % of EU27\_2020=100

Source: Eurostat (2026b)

A particular concern is that several Croatia's peers with lower productivity than Croatia in 2005 have since overtaken it: between 2005–2022, productivity rose 43.2% in Romania, 27.1% in Lithuania, 20.2% in Estonia, and 20.1% in Poland, versus 10.6% in Croatia. While Croatia is slowly closing the gap with the EU average and Old MS, its convergence remains slow comparing to CEECs.

High-tech exports<sup>1</sup> (Figure 3), a key measure of technological strength, rose just 1.2% in the Old MS between 2013–2022, reflecting Europe's declining global competitiveness versus the US and China. Croatia and the CEECs also experienced declines, while Southern MS had modest gains. Although some CEECs, like Czechia and Malta, exceeded the 2022 EU and the Old MS averages, overall, Croatia, the CEECs, and Southern MS reached only about half the Old MS export levels.

<sup>1</sup> High-tech products include Aerospace, Computers-office machines, Electronics-telecommunications, Pharmacy, Scientific instruments, Electrical machinery, Chemistry, Non-electrical machinery, Armament.

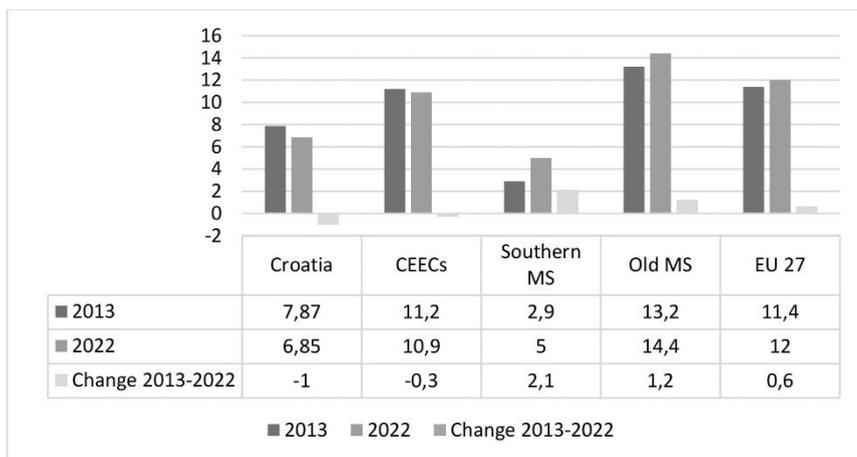


Figure 3 Share of high-tech products in total exports, in 2013 and 2022, in %

Source: Eurostat (2024a)

## 4.2. Innovation factors

The convergence of Cohesion countries with the EU and the Old MS in innovation is assessed using three key indicators: innovation performance, the level of digitalization, and business R&D expenditure.

The 2024 Summary Innovation Index (SII) shows overall EU innovation improvements since 2017 (the baseline year), with the EU-27 average rising 10% (EIS, 2024). Leading countries – Denmark, Sweden, Finland, Netherlands – score above 125% of the average, while Latvia, Bulgaria, and Romania remain below 59%. Croatia grew 14.4%-points, surpassing the CEECs (+11.9%) and Old MS (+7.5%) averages (Figure 4), but, like most CEECs and Southern MS, remains below the EU average in the “Emerging” or “Moderate Innovators” categories. Estonia is the only CEEC reaching “Strong Innovators.

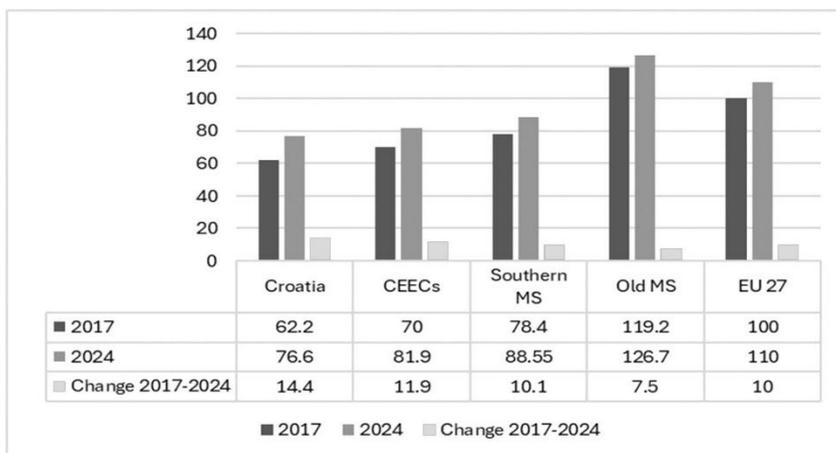


Figure 4 Summary innovation index in 2017 and 2024 relative to EU 27 in 2017  
 Source: EIS, 2024

Digital transformation shows, according to the Digital Economy and Society Index (DESI) a similar pattern between 2017 and 2022 (the first and last year of available data from the Digital decade DESI visualisation tool). CEECs (+15.73), Southern MS (+16.55), and Croatia (+17.8) outpaced Old MS (+12.29) (Figure 5). Croatia ranked 21st, nearing the EU average, ahead of Romania, Bulgaria, Greece, Poland, Slovakia, and Hungary. Only Lithuania, Slovenia, Estonia, and Malta exceeded the EU average, with Malta 6th behind Finland, Denmark, the Netherlands, Sweden, and Ireland.

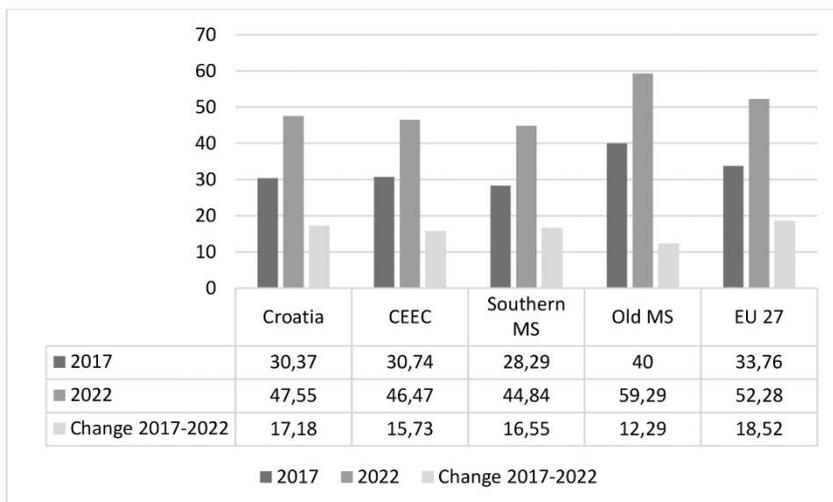
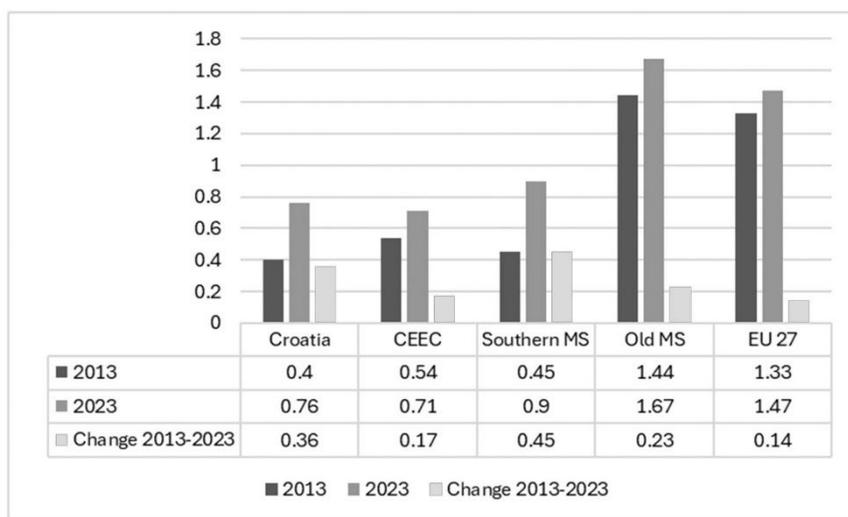


Figure 5 Change in DESI from 2017 to 2022  
 Source: DESI (2022)

From 2013 to 2023, business R&D spending grew faster in Croatia, the CEEC, and Southern MS than in the Old MS, with Poland and Greece nearly tripling and Croatia almost doubling (Figure 6). Yet, their spending remains less than half the Old MS and EU-27 average (Figure 6). Croatia faces a paradox, with business R&D spending increasing while its share in total R&D expenditures (GERD) declines, signalling greater reliance on EU funding over private investment.



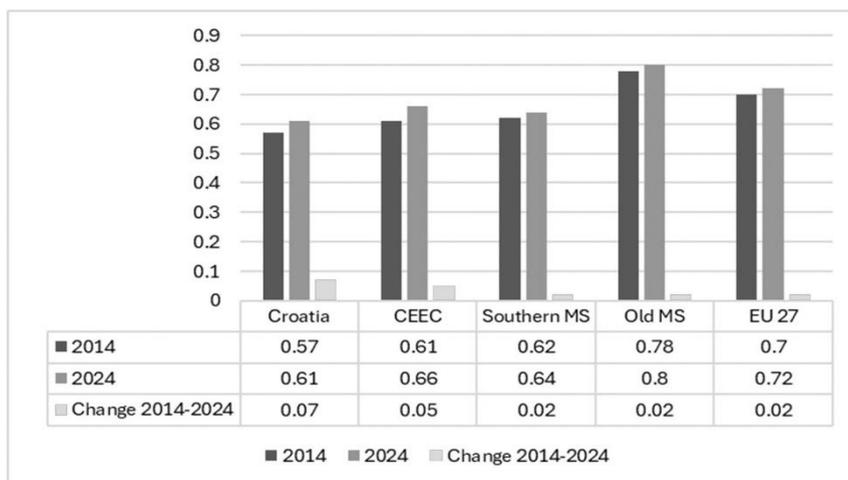
Note: There are missing data for Ireland in 2023

Figure 6 R&D expenditures by business sectors, 2013 and 2023, in % of GDP

Source: Eurostat (2025a)

### 4.3. Institutional factors

Institutional factors include in this research the rule of law and corruption – two interdependent dimensions of institutional quality essential to growth and welfare. According to the WJP Rule of Law Index (2024), several Old MS – such as Austria, France, and Italy – have declined over the past decade, though far less than the CEECs members (Figure 7). Hungary saw the steepest drop, from 30th in 2014 to 73rd in 2024. Croatia fell 9 places now scoring 0.61 (24th in the EU, 45th globally).



Note: The data are missing for Luxembourg, Ireland, Cyprus, Malta, Latvia, Lithuania and Slovakia in 2014

Figure 7 Rule of law, 2014 and 2024 (0=lowest level; 1=highest level)

Source: WJP Rule of Law Index (2024)

EU countries remain global leaders in rule of law despite some setbacks. In the 2024 Index of 142 countries, Denmark ranked 1st, followed by Norway, Finland, Sweden, and Germany, while Hungary (73rd), Bulgaria (59th), Greece (47th), and Croatia (45th) rank lowest, with none of the Cohesion countries reaching EU-27 or Old MS averages.

According to the Transparency International’s 2024 Corruption Perceptions Index no Cohesion country, including Croatia, has reached the EU-27 or Old MS average (Figure 8). Denmark (90) and Finland (88) lead, while Hungary (41), Bulgaria (43), Malta and Romania (46), and Croatia (47) lag. Croatia ranks 63rd globally and 23rd in the EU, with 92% of citizens perceiving widespread corruption (EU: 68%) and 60% feeling personally affected (EU: 27%) (European Commission 2024c).

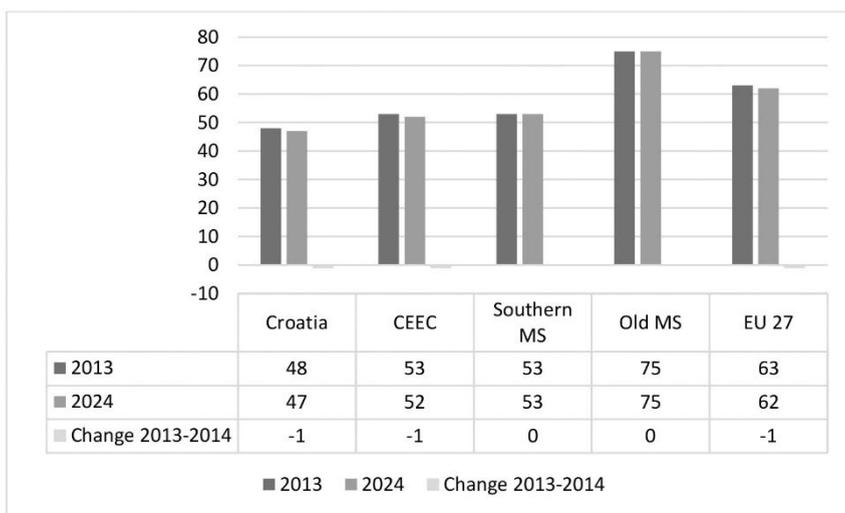


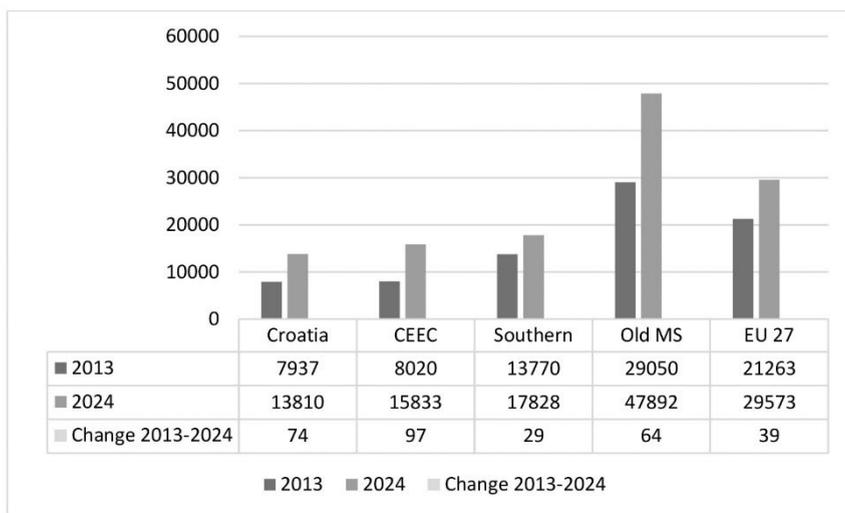
Figure 8 Corruption perception index, 2013 and 2024 (0=high corruption; 100=least corruption)

Source: CPI (2024)

#### 4.4. Well-being

In this research, citizens' well-being and quality of life were assessed using three indicators: average net wages, pension expenditures as a percentage of GDP, and the AITi Global Social Progress Index.

Between 2013 and 2024, wages in Croatia rose 74%, while CEECs grew faster (97%) (e.g. Bulgaria and Romania 191%, Lithuania 167%, Latvia 152%, Estonia 101%), compared with slower growth in the Old MS (64%) and Southern MS (29%) (Figure 9). Despite gains, gaps remain wide: in 2024, Old MS wages were 2.5–3 times higher than in CEECs and Croatia. Croatia ranks 25th in the EU by nominal wages, 16th by PPS, with growth driven mainly by the public sector and tourism, contributing to high inflation that erodes real purchasing power.



Note: Cyprus is not included

Figure 9 Annual net earnings of single person without children, 2013 and 2024, in eur  
 Source: Eurostat (2025b)

Pensioners, who comprise over a third of Croatia's population (1.23 million), are particularly vulnerable. Despite an 80% increase of pensions since 2013 (according to informal estimates), Croatian pensions remain among the EU's lowest: in 2022, the average pension was €601 PPS – three times lower than Austria and Luxembourg, twice lower than Greece and Portugal, and 1.4 times lower than Slovenia. The 2024 median pension is €513, leaving nearly 600,000 retirees with less. Recent reforms have focused on minimum, family, and disability pensions, while earnings-related pensions lag behind wage growth. Despite a rising number of retirees, pension spending as a share of GDP has declined across the EU, including the Old MS, while average spending in Croatia and the CEECs remains below the EU-27 and Old MS levels (Figure 10).

The average pension replacement rate for old-age pensions in 2024 was, according to the Croatian Pension Insurance Institute (CPII, 2025), 45% of pre-retirement income, meaning that retirees receive on average less than half of their pre-retirement income as a pension. However, CPII's data stand in sharp contrast to Eurostat figures<sup>2</sup>, which estimate that the replacement rate in Croatia is the lowest in Europe – only 35% – followed by Lithuania (38%) and Ireland (40%). The EU-27 average was 60%, while Greece, Spain, and Italy topped the list with replacement rates of 84%, 81%, and 79%, respectively. Pavković (2022) finds that Croatian pensioners face higher poverty risk than most pensioners in the EU,

<sup>2</sup> Available at Eurostat (2025d)

highlighting the need to prioritize pension adequacy in the EU-funded National Recovery and Resilience Plan.

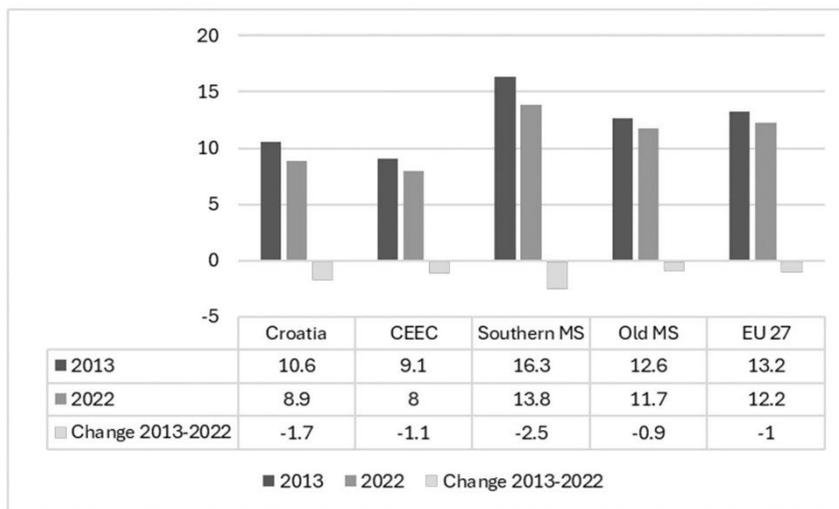
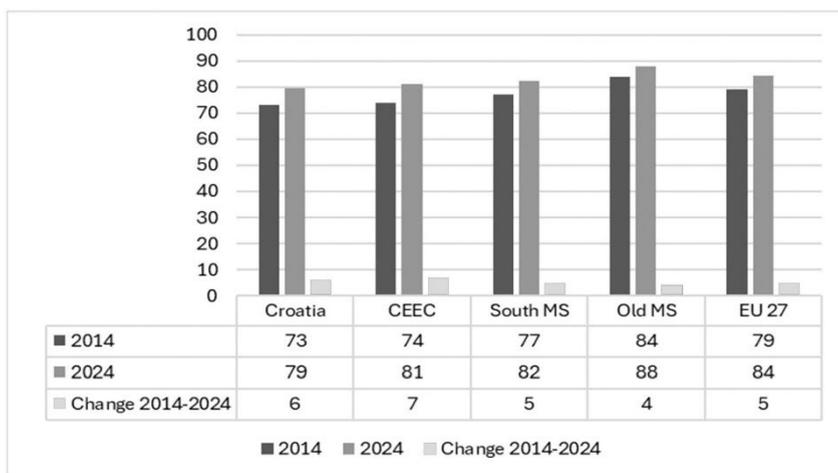


Figure 10 Expenditure on pensions as % of GDP

Source: Eurostat (2025c)

In many Cohesion countries – especially Croatia – pensions have not kept pace with GDP growth, reflecting broader gaps between income and well-being. The Social Progress Index (SPI, 2014, p. 15; SPI-AITi, 2025, 57) shows limited progress in basic needs, well-being, and opportunity, indicating that higher GDP does not guarantee better living standards. Scandinavian countries lead globally, while the CEECs, Southern MS, and Croatia, though among the top 45 worldwide, remain at the EU's lower end. Despite gains of 7 points in the CEECs and 6 in Croatia (Figure 11), the gap with the Old MS persists; only Slovenia approaches parity (score 86, rank 17). Croatia ranks 37th globally, above Hungary, Romania, and Bulgaria.



Note. The data for Luxembourg, Malta and Cyprus are missing in 2014

Figure 11 Social progress index, 2014 and 2024

Source: SPI-AITi (2025); SPI (2014)

Yet, according to Eurofund (2024, p. 4), many citizens in the Cohesion countries – particularly in Greece, Croatia, Latvia, and Estonia – still struggle to make ends meet, while quality of life remains highest in Luxembourg, Austria, and Germany.

## 5. CONCLUSIONS

While Cohesion Policy has positively influenced development in the Cohesion countries, it remains unclear how much Croatia and its CEEC peers have narrowed the socio-economic gap with the EU average. This study assesses Croatia's convergence with the EU-27, Old MS, and CEECs across four dimensions: techno-economic development, innovation, institutional quality, and well-being. It also examines whether progress in economic and innovation fields translates into institutional and social gains.

Using EUROSTAT time-series data for 2013–2023, convergence is defined as Cohesion countries' "catching up" to EU-27 and Old MS averages across 11 key indicators. Despite progress, Croatia, the CEECs, and Southern MS have yet to reach EU averages in any dimension. Exceptions include Malta (GDP p/c, digitalization), Czechia (high-tech exports), and Estonia (innovation). CEECs exhibited higher growth across most factors, including wages and the Social Progress Index, demonstrating both their convergence toward Old MS and their role as drivers of economic and social growth over the past decade. Data show that

the most developed Old MS have stagnated, making less progress than Cohesion countries in GDP p/c (Figure 1), labour productivity (Figure 2), innovation (Figure 4), digitalization (Figure 5), and R&D expenditures (Figure 6), supporting claims that Europe is trapped in the “middle technologies” (Draghi, 2024).

By 2024, GDP p/c in the CEECs and Croatia reached 82% and 77% of the EU-27 average, yet none attained full convergence; only Malta exceeded it (109%), while Czechia and Slovenia came closest (91%). Institutional gaps persist – Croatia, Hungary, Bulgaria, and Romania remain among the EU’s weakest on rule of law and corruption – showing that rapid economic growth has not been matched by institutional progress.

Well-being disparities persist: between 2013 and 2024, wages rose 97% in the CEECs and 74% in Croatia, but Old MS wages remain 2.5–3 times higher. Croatian pensions, despite 80% growth, are still among the EU’s lowest (€513 median in 2024), with nearly 600,000 retirees below this level. Consequently, Croatia and the CEECs remain near the bottom of the EU in social progress and quality of life despite gains in economic growth.

Croatia scores below the CEEC average on 7 of 11 convergence indicators (Table 1, column 4), notably in GDP per capita, productivity, innovation, and institutional quality.

The study draws several conclusions. First, the CEECs have grown faster than the Old MS across most indicators, driving EU convergence and socio-economic progress. However, neither the CEECs nor Croatia have yet reached the Old MS or EU-27 averages in techno-economic, innovation, social, or institutional development. Second, Croatia slightly outperforms the CEECs average in innovation, digitalization, business R&D, and pension spending, but these gains have not closed gaps in growth, institutional quality, or well-being. It remains among the CEECs with the lowest wages and pensions, calling into question the inclusiveness of Cohesion Policy. Third, the Cohesion countries – including Croatia – are gradually narrowing the socio-economic gap with the Old MS, partly due to stagnation in the latter. However, despite notable gains in GDP p/c and progress in innovation and digitalization, these improvements have not translated into stronger institutions (corruption, rule of law) or of well-being. This suggests that Cohesion Policy interventions seldom tackle non-economic dimensions, highlighting the need for a deeper evaluation of their effectiveness and the ways in which funds are utilized to benefit all citizens.

Finally, the stagnation observed in the Old MS across most indicators, compared with the CEECs, suggests that Europe’s challenge lies not only in closing the gap between the CEECs and the Old MS but also in preventing socio-economic decline within the Old MS and the EU as a whole.

The main limitations of this research are primarily methodological, including: (1) the subjective selection of indicators based on the authors’ assessment of their relevance; (2) reliance on basic empirical methods to assess

convergence using statistical time series data; and (3) a relatively short time horizon, mostly spanning the last decade (2013–2023). It is important to note that this methodological simplicity reflects the absence of a coherent analytical and normative framework for assessing cohesion convergence. Moreover, the aim of this study was not to merely produce another econometric analysis of ESIFs' impact on cohesion efficiency. Rather, it sought to influence the assessment discourse and encourage policymakers to consider social and well-being dimensions alongside purely economic factors in evaluating cohesion.

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## REFERENCES

- Albanese, G., Carrieri, V., & Speziali, M. M. (2021). *Looking for a star: Evaluating the effect of the Cohesion Policy on regional well-being*. IZA Discussion Papers, No. 14521. Institute of Labor Economics (IZA), Bonn. <https://doi.org/10.2139/ssrn.3883797>
- Amendolagine, V., Prota, F., & Serlenga, L. (2024). The impact of European Cohesion Policy: A spatial perspective. *Journal of Economic Geography*, 24 (4), 477–494. <https://doi.org/10.1093/jeg/lbae006>
- Babić, Z., & Račić, D. (2024). Croatian social policy under the impact of the European Union. In J. Puljiz & H. Butković (eds.), *Crisis era European integration: Economic, political and social lessons from Croatia* (pp. 254–276). Routledge. <https://doi.org/10.4324/9781003394013-13>
- Bachtler, J., Polverari, L., Domorenok, E., & Graziano, P. (2024). Administrative capacity and EU Cohesion Policy: Implementation performance and effectiveness. *Regional Studies*, 58 (4), 685–689. <https://doi.org/10.1080/00343404.2023.2276887>
- Bachtrögl, J., Fratesi, U., & Perucca, G. (2020). The influence of the local context on the implementation and impact of EU Cohesion Policy. *Regional Studies*, 54 (1), 21–34. <https://doi.org/10.1080/00343404.2018.1551615>
- Bayramov, S. V., Dadashov, K., Dadashova, K., & Egorov, I. (2023). European Integration Processes in EECCA. *Journal of Ethnic and Cultural Studies*, 10 (2), 41–74. <https://doi.org/10.29333/ejecs/1484>
- Berkowitz, P., Monfort, P., & Pienkowski, J. (2020). Unpacking the growth impacts of European Union Cohesion Policy: Transmission channels from Cohesion Policy into economic growth. *Regional Studies*, 54 (1), 60–71. <https://doi.org/10.1080/00343404.2019.1570491>

- Caldas, P., Dollery, B., & Marques, R. C. (2018). European Cohesion Policy impact on development and convergence: a local empirical analysis in Portugal between 2000 and 2014. *European Planning Studies*, 26 (6), 1081-1098. <https://doi.org/10.1080/09654313.2018.1449815>
- CPI (2024). Corruption Perception Index, Transparency international. Corruption Perceptions Index 2024 – Transparency.org
- CPII (2025). Overview of basic status information on the pension insurance system for December 2024. <https://www.mirovinsko.hr/en/nova-kategorija-3755/3755>
- Crescenzi, R., & Giua, M. (2017). Different approaches to the analysis of EU cohesion policy. In J. Bachtler, P. Berkowitz, S. Hardy, & T. Muravska (eds.), *EU cohesion policy* (pp. 21-33). Routledge.
- Crescenzi, R., & Giua, M. (2020). One or many Cohesion Policies of the European Union? On the differential economic impacts of Cohesion Policy across member states. *Regional Studies*, 54 (1), 10-20. <https://doi.org/10.1080/00343404.2019.1665174>
- Crucitti, F., Lazarou, N. J., Monfort, P., & Salotti, S. (2024). The impact of the 2014–2020 European Structural Funds on territorial cohesion. *Regional Studies*, 58 (8), 1568-1582. <https://doi.org/10.1080/00343404.2023.2243989>
- Čučković, N., Vučković, V., & Jurlin, K. (2024). Competitiveness, Convergence, and Innovation: Assessment of Impacts of the First EU Membership Decade. In J. Puljiz & H. Butković (eds.), *Crisis era European integration: Economic, political and social lessons from Croatia* (pp. 136-160). Routledge. <https://doi.org/10.4324/9781003394013-8>
- Dall’Erba, S., & Fang, F. (2017). Meta-analysis of the impact of European Union Structural Funds on regional growth. *Regional Studies*, 51 (6), 822-832. <https://doi.org/10.1080/00343404.2015.1100285>
- Di Caro, P., & Fratesi, U. (2022). One policy, different effects: Estimating the region-specific impacts of EU cohesion policy. *Journal of Regional Science*, 62, 307-330. <https://doi.org/10.1111/jors.12566>
- Draghi, M. (2024). *The future of European competitiveness Part A: A competitiveness strategy for Europe*. European Commission.
- DESI (2022). Digital Economy and Society Index. DESI 2022 by components – Digital Decade DESI visualisation tool.
- EIS (2024). *European Innovation Scoreboard 2024*. European Union.
- Epstein, R. A., & Jacoby, W. (2014). Eastern enlargement ten years on: Transcending the East-West divide?. *Journal of Common Market Studies*, 52 (1), 1-16. <https://doi.org/10.1111/jcms.12089>
- Eurofound (2024). *Quality of life in the EU in 2024: Results from the Living and Working in the EU e-survey*. Publications Office of the European Union.
- European Commission (2024a). *Ninth report on economic, social and territorial cohesion*. Publications Office of the European Union.
- European Commission (2024b). *Forging a sustainable future together – Cohesion for a competitive and inclusive Europe*. Publications Office of the European Union.
- European Commission (2024c). *Citizens’ attitudes towards corruption in the EU in 2024: Special Eurobarometer 548*. European Commission.
- European Union (2024). *Bridging gaps: EU Cohesion Policy 2014–2020 – Creating a better life for Europeans*. Publications Office of the European Union.
- Eurostat (2024). *National accounts and GDP*. Statistics Explained. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=National\\_accounts\\_and\\_GDP](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=National_accounts_and_GDP)
- Eurostat (2024a). High-tech exports. Online data code: tin00140.
- Eurostat (2025a). GERD by sector of performance. Online data code: rd\_e\_gerdot.

- Eurostat (2025b). Annual net earnings. Online data code: earn\_nt\_net.
- Eurostat (2025c). Expenditure on pensions as percentage of GDP. Online data code: tps00103.
- Eurostat (2025d). Aggregate replacement ratio for pensions (excluding other social benefits) by sex. Online data code: ilc\_pnp3.
- Eurostat (2026a). GDP per capita in PPS. Online data code: tec00114.
- Eurostat (2026b). Labour productivity per person employed and hour worked U27\_2020=100. Online data code: tesem160.
- Fratesi, U., & Wishlade, F. G. (2017). The impact of European Cohesion Policy in different contexts. *Regional Studies*, 51 (6), 817-821. <https://doi.org/10.1080/00343404.2017.1326673>
- Gyorfy, D. (2022). The middle-income trap in Central and Eastern Europe in the 2010s: Institutions and divergent growth models. *Comparative European Politics*, 20, 90-113. <https://doi.org/10.1057/s41295-021-00264-3>
- Host, A., Zaninović, V., & Parat, K. (2017). Cohesion policy instruments and economic growth: do institutions matter?. *Ekonomika misao i praksa*, 26 (2), 541-559.
- Incaltarau, C., Pascariu, G., & Surubaru, N. (2020). Evaluating the determinants of EU funds absorption across old and new member states: The role of administrative capacity and political governance. *Journal of Common Market Studies*, 58 (4), 941-961. <https://doi.org/10.1111/jcms.12995>
- Jagodka, M., & Snarska, M. (2023). Should we continue EU Cohesion Policy? The dilemma of uneven development of Polish regions. *Social Indicators Research*, 165, 901-917. <https://doi.org/10.1007/s11205-022-03048-8>
- Laleta, S. (2022). National Recovery and Resilience Plan: Croatia. *Italian Labour Law E-Journal*, 15 (1S). <https://doi.org/10.6092/issn.1561-8048/15688>
- Malešević Sučić, Z., & Lerga, L. (2020). Management of Financial Instruments in the Republic of Croatia-European Structural Investment Funds-Planned by the Programmes and Overview of Main Financial Status Indicators. *Journal of Accounting and Management*, 10 (1), 29-40.
- Mendez, C., & Bachtler, J. (2024). The quality of government and administrative performance: Explaining Cohesion Policy compliance, absorption and achievements across EU regions. *Regional Studies*, 58 (4), 690-703. <https://doi.org/10.1080/00343404.2022.2083593>
- Mikulić, D. (2025). Effects of the investments financed by EU funds on the economic activity in Croatia. In *Proceedings of FEB Zagreb 16th International Odyssey Conference* (Vol. 8, No. 1, pp. 1-758). Dubrovnik, Croatia.
- Mogila, Z., Miklošević, T., Lichner, I., Radvanský, M., & Zaleski, J. (2022). Does Cohesion Policy help to combat intra-country regional disparities? A perspective on Central European countries. *Regional Studies*, 56 (10), 1783-1795. <https://doi.org/10.1080/00343404.2022.2037541>
- Ociepa-Kicinska, E., Czyzycki, R., Szklarz, P., & Kloska, R. (2021). Impact of EU funds on the level of regional socio-economic development: The case of Poland. *European Research Studies Journal*, XXIV (2), 328-362.10.35808/ersj/2237.
- Pavković, A. (2022). Primjerenost mirovina u Republici Hrvatskoj. *Ekonomika misao i praksa*, 31 (1), 327-346. <https://doi.org/10.17818/EMIP/2022/1.15>
- Paun, C. V. (2014). The socio-economic impact of European Funds on Eastern European countries. *International Review of Social Research*, 4, 49-56. <https://doi.org/10.1515/irsr-2014-0004>
- Perović, A., Bosna, J., & Vištica, D. (2022). The impact of European Union funds on the GDP of the Republic of Croatia: An overview by counties. In *Proceedings of the 39th International Business Information Management Association (IBIMA)* (May 30-31, 2022, Granada, Spain).
- Polverari, L. (2023). *How to better support administrative capacity to improve the effectiveness of Cohesion Policy* (Final report). European Commission.

Puljiz, J., Maleković, S., & Keser, I. (2019). Cohesion policy in Croatia: What have we accomplished so far?. In Z. Petak & K. Kotarski (eds.), *Policy-making at the European periphery: The case of Croatia* (pp. 285-302). Palgrave Macmillan. [https://doi.org/10.1007/978-3-319-73582-5\\_15](https://doi.org/10.1007/978-3-319-73582-5_15)

Puljiz, J., Maleković, S. & Biondić, I. (2024). The Transformative Impact of EU Cohesion Policy in Croatia. In J. Puljiz & H. Butković (eds.), *Crisis era European integration: Economic, political and social lessons from Croatia* (pp. 202-226). Routledge. <https://doi.org/10.4324/9781003394013-11>

Radaelli, C. M. (2023). Europeanization in public policy. In M. van Gerven, C. Rothmayr Allison, & K. Schubert (eds.), *Encyclopedia of Public Policy*. Springer. [https://doi.org/10.1007/978-3-030-90434-0\\_55-1](https://doi.org/10.1007/978-3-030-90434-0_55-1)

Rudelić, M., Drezgić, S., & Olgjć Draženović, B. (2025). The influence of European Union funds on regional development of the Republic of Croatia. In S. Drezgić, N. Dukić Samaržija, A. Arbula Blečić & A. Bobinac (eds.), *Perspectives on the resilience of economic systems* (pp. 55-71). University of Rijeka.

SPI (2014). Social progress index, Social progress imperative, Washington, D.C.

SPI-AITi (2025). AITi Global Social Progress Index, AITi Tiedmann global. <https://www.socialprogress.org/alti-global-social-progress-index>.

Volintiru, C., Surubaru, N. C., Epstein, R. A., & Fagan, A. (2024). Re-evaluating the East-West divide in the European Union. *Journal of European Public Policy*, 31 (3), 782-800. <https://doi.org/10.1080/13501763.2024.2313694>

World Bank (2024). *Croatia systematic country diagnostic update*. World Bank.

WJP Rule of Law Index (2024). The World Justice Project Rule of Law Index. World Justice Project. Washington D. C.

Vukašina, M., Kersan-Škabić, I., & Orlić, E. (2022). Impact of European structural and investment funds absorption on the regional development in the EU-12 (new member states). *Equilibrium: Quarterly Journal of Economics and Economic Policy*, 17 (4), 857-880. <https://doi.org/10.24136/eq.2022.029>

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## **KONVERGENCIJA HRVATSKE S EU-OM I DRŽAVAMA SREDNJE I ISTOČNE EUROPE: USKLAĐIVANJE GOSPODARSKOG RASTA I BLAGOSTANJA**

***Sažetak***

*Ovo istraživanje ispituje utjecaj kohezijske politike EU-a na socioekonomski razvoj Hrvatske od njezina pristupanja 2013. godine, s posebnim naglaskom na konvergenciju Hrvatske s državama srednje i istočne Europe te južnim državama članicama u odnosu na stare države članice i EU-27. Korištenjem 11 pokazatelja unutar četiriju dimenzija – tehnno-ekonomske uspješnosti, inovacija, institucionalne kvalitete i blagostanja – studija uspoređuje ostvareni napredak s prosjecima starih država članica i EU-27 u odabranim pokazateljima. Rezultati pokazuju da su države srednje i istočne Europe, uključujući Hrvatsku, u većini pokazatelja nadmašile stare države članice, što upućuje na njihovu konvergenciju s njima, ali i na njihovu ulogu kao ključnih pokretača gospodarskog i društvenog napretka unutar Europske unije. Međutim, unatoč tom napretku, i dalje zaostaju za starim državama članicama i prosjecima EU-27 u svim dimenzijama, pri čemu su najveći jazovi prisutni u institucionalnoj kvaliteti i blagostanju. To upućuje na činjenicu da snažan gospodarski rast nije u potpunosti pretočen u poboljšanja u neekonomskim dimenzijama razvoja.*

***Ključne riječi: kohezijska politika, Hrvatska, zemlje srednje i istočne Europe, konvergencija, blagostanje, institucionalna kvaliteta.***

***JEL klasifikacija: O52, O47, R58, I31, H54.***