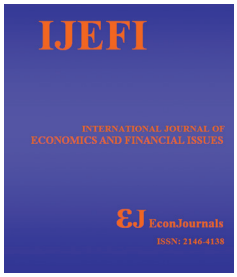

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Econometric Analysis of Unemloymwent Rate and RGDP Trends Tradeoff Dynamics in Eastern European Countries

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ABSTRACT

The paper provides econometric analysis of unemployment rates (UR) and real GDP (RGDP) trends and their tradeoff dynamics for 11 Eastern EU countries (Poland, Croatia, Czech Republic, Romania, Slovakia, Slovenia, Hungary, Bulgaria, Estonia, Latvia, and Lithuania) from 1996 to 2024. The econometric modeling highlights a range of peculiarities that define their economic landscapes. This investigation reveals that all 11 countries share the common trait of an inverse UR–RGDP relationship, with downturns like 2008 and 2020 triggering UR spikes followed by recoveries tied to RGDP growth, reflecting a shared EU integration trajectory. The peculiarities underscore a spectrum of economic adaptability. Industrial powerhouses like Poland, Czech Republic, and Hungary demonstrate faster UR declines and robust RGDP growth, while tourism-dependent Croatia and tech-driven Estonia show distinct recovery trajectories, highlighting diverse economic adaptability with lagged or non-linear responses. The analysis suggests that diversification, as seen in Romania and Bulgaria with steady RGDP growth moderating UR volatility, enhances economic resilience, while volatile recoveries in Latvia and Lithuania indicate structural rigidities that warrant targeted policy interventions. The findings underscore the importance of diversification and sector-specific resilience in shaping labor market and economic outcomes across the region.

Keywords: Econometric Analysis, Business Fluctuations, Unemployment, RGDP, Eastern Europe.
JEL Classifications: E 24, E 32, C32, O52

1. INTRODUCTION

Over the past few decades, the European Union (EU) labor market has faced a variety of interconnected challenges. These issues have shaped the employment landscape and posed obstacles to economic stability and growth. The recent dynamics of European unemployment rates (UR) revealed notable trends and divergences. Following a steady decline from the post-2013 peak, most countries reached historically low unemployment levels by 2019. However, the COVID-19 pandemic in 2020 triggered a temporary spike, though its impact varied—some nations, like Spain and Greece, experienced sharper increases, while others, such as Germany and the Netherlands, showed more resilience (Figure 1). The recovery post-2021 has been uneven, with some countries quickly returning to pre-pandemic levels while others, particularly in Southern and Eastern Europe, still exhibit elevated unemployment. Additionally, recent geopolitical and economic uncertainties, such as inflation and the energy crisis, have contributed to fluctuations, suggesting ongoing challenges for European labor markets despite overall improvements. EU unemployment fluctuations in full employment gaps has significant effect on youth unemployment and educational disengagement (Gökten et al., 2024). Meloni (2024) indicated that unemployment shocks have long-lasting, negative effects on labor force participation, refuting the unemployment invariance hypothesis (UIH) in high-income economies and highlighting the need for revised macroeconomic models and policy approaches.

The unemployment dynamics in Eastern and Western European countries reveal notable contrasts over the past two decades. The labor markets in Eastern EU countries, in addition to following common EU trends, face unique challenges shaped by historical transitions, economic structures, and demographic shifts (Oliskevych and Lukianenko, 2020). Some of these problems have been persistent over the past few decades, and despite some progress has been made, there are new external challenges which stem from the migration issues, COVID-19 pandemic and global economic uncertainties (Sabas et al., 2025), especially due to the war in Ukraine (Nehrey and Finger, 2024; Sokrovolska et al., 2025). Historically, Eastern EU countries, such as Poland, Czechia, and Hungary, had higher UR than their Western counterparts in the early 2000s but showed significant improvements post-EU accession, benefiting from labor market integration and economic growth. However, the 2008 financial crisis and the subsequent Eurozone debt crisis hit Southern and some Eastern European countries particularly hard, with Greece, Spain, and the Balkans experiencing prolonged unemployment peaks. In contrast, Western European economies, like Germany and the Netherlands, demonstrated greater resilience and quicker recoveries (Walter, 2023). More recently, by 2019, many Eastern EU countries had UR converging with or even outperforming Western averages, with Czechia and Poland maintaining some of the lowest unemployment levels in the EU.

The COVID-19 shock in 2020 led to temporary spikes across Europe, but Eastern countries generally recovered swiftly, helped by more flexible labor markets and lower baseline unemployment (Figure 2). However, structural challenges persist, particularly in the Balkans, where unemployment remains higher than in Western Europe, reflecting deeper labor market inefficiencies. The ongoing economic uncertainties, including inflation and energy crises, continue to shape these dynamics, with Western Europe showing more stability while some Eastern economies remain more vulnerable to external shocks (Kozytskyy et al., 2023; Kaminskyi et al., 2025).

2. LITERATURE REVIEW

The analysis of unemployment in Central and Eastern European EU countries reveals significant disparities in UR and labor market dynamics (Kwiatkowski and Krzętowska, 2024; Amin et al., 2025). The study finds that countries such as the Czech Republic, Slovenia, and Poland experienced the lowest UR, while Slovakia, Latvia, and Lithuania faced higher rates. Econometric analysis shows that the dynamics of labor market flows are significantly influenced by factors such as the growth of temporary and part-time employment and increased investments, with Bulgaria and Romania exhibiting a more stagnant nature of unemployment due to lower labor market mobility. The study performed by Liotti (2022) used data from 28 European countries (2000-2018) and found no consistent evidence supporting the claim that greater labor market flexibility reduces youth unemployment that is a particularly urgent challenge in EU countries. It was proved that the negative impact of flexibility was statistically significant only for Eastern European countries, while higher economic growth and active labor market policies are identified as more effective tools. These findings challenged the effectiveness of deregulation as a standalone strategy for combating youth unemployment in Europe. Rimbu (2017) examined EU and Romanian labor market policies, focusing on the efficiency of the Romanian National Employment Agency, using textual, contextual, and comparative analysis methods. It evaluates Romania's labor market performance against Bulgaria, Croatia, and Greece during 2007-2016, using population and social condition indicators. The findings reveal Romania's relatively better labor market performance but highlight its failure to meet the Europe 2020 Strategy employment targets. Despite some progress, measures to support youth employment remain limited and ineffective, necessitating innovative and tailored strategies to improve labor market integration for young people. Arifi et al. (2019) concluded that factors such as age, sex, household financial situation, mother's education, and having work experience during studies significantly influence the probability of young people being employed after finishing school in five transition countries from South East and Eastern Europe: Bulgaria, Croatia, Moldova, Romania, and Serbia. However, factors like field of education, living area, and marital status do not have a significant impact on employment outcomes.

Recent research highlights the multifaceted relationship between economic growth, structural shifts, and labor market dynamics

Figure 1: Dynamics of European countries unemployment rate

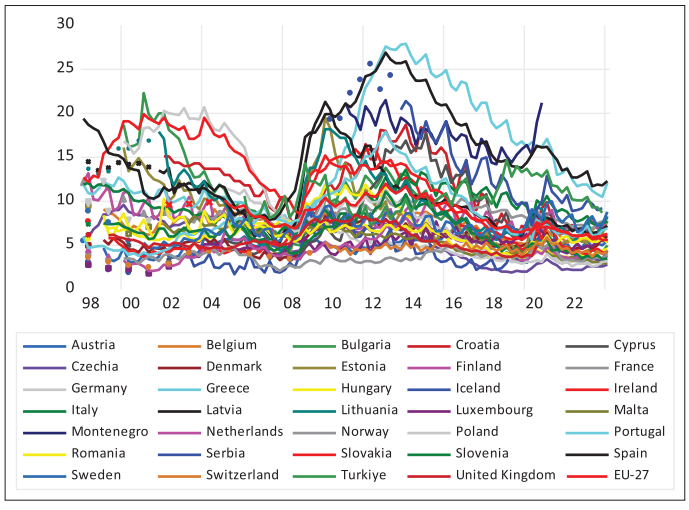
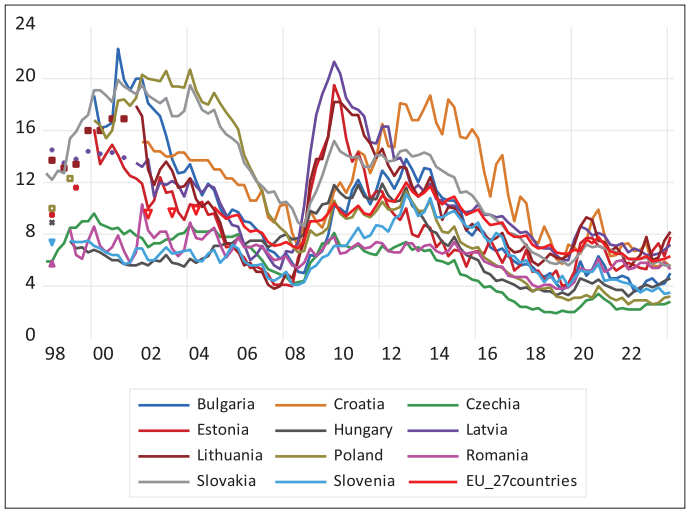


Figure 2: Dynamics of Eastern EU countries unemployment rate



in transition economies. Zhylinska et al. (2020) examine how terms of trade and industrialization patterns influence economic performance in export-oriented manufacturing economies, suggesting that shifts in trade conditions can have significant implications for employment structures and productivity growth. Scientists also provide empirical evidence of nonlinearities and asymmetries in the unemployment and labor force participation relationship in Ukraine, indicating that the response of unemployment to economic cycles is not uniform, thus complicating the expected output-unemployment trade-off (Bilorusets et al., 2025; Lukianenko and Oliskevych, 2017). Complementing this, Serhiienko et al. (2023) explore the role of financial instruments in enhancing the efficiency of the agricultural sector, demonstrating that targeted financial strategies can stimulate sectoral growth and indirectly contribute to labor market improvements, particularly in rural employment. The studies emphasize that the unemployment-output trade-off in Eastern European economies is influenced not only by macroeconomic cycles but also by sectoral policy interventions, trade dynamics, and labor market rigidities.

The COVID-19 pandemic had a severe and immediate impact on labor markets across the EU, including in Eastern Europe. Sectors like hospitality, tourism, and retail faced major disruptions, leading to mass layoffs, furloughs, and temporary job losses (Zyma et al., 2022; Zomchak et al., 2023). Many workers were temporarily laid off, especially in countries with heavy reliance on tourism (e.g., Croatia, Bulgaria). Abrhám and Vošta (2022) concluded that the COVID-19 pandemic initially led to a reduction in unemployment disparities across EU countries, though social disparities in UR differed from GDP per capita trends. The divergence in UR was influenced by varying economic impacts across countries, with developed EU nations experiencing a less severe decline. Svabova et al. (2021) applied the counterfactual method to assess the impact of COVID-19-related anti-pandemic measures on the UR in Slovakia. The analysis reveals a 2-3% increase in the UR in 2020 compared to the predicted trend in the absence of the pandemic, highlighting the adverse effect of the crisis on the labor market. Gavriluță et al. (2022) explored the significant changes in labor market structure during the COVID-19 pandemic, focusing on the impact of economic decline and high UR in the EU-28. Key findings highlight predictors of employability, including material deprivation, education levels, and economic freedom, as well as the gender disparity, with women facing lower employability rates. The study's findings indicate that material deprivation, particularly among young people, education levels (with a focus on tertiary education), and economic freedom are significant predictors of employability in the context of the COVID-19 pandemic. Additionally, the gender perspective reveals a positive correlation between gender (specifically women) and lower employability rates in the EU-28.

3. DATA ANALISYS AND RESULTS

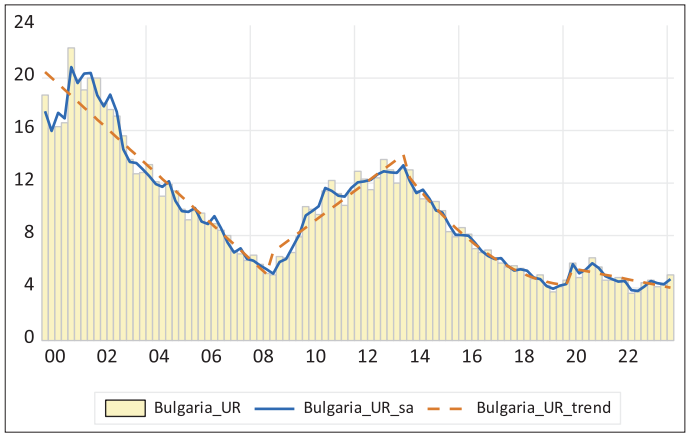
We investigate the dynamics of UR and real GDP time series for 11 Eastern EU countries (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) over the span of 2000-2024. As the UR and real RGDP exhibits characteristic seasonal fluctuations caused by recurring patterns in economic activity we conduct a seasonally adjusted analysis by applying the multiplicative decomposition approach of the Census X-12 method. We also perform econometric modelling of trend components and indicated the growth of UR across several distinct sub-periods, which were determined based on structural shifts and dynamics in the corresponding unemployment trajectories.

Figure 3 presents the UR in Bulgaria, including the raw UR (light yellow bars), the seasonally adjusted UR (blue line), and the trend component (orange dashed line). In the early 2000s, the UR was high, around 20%, but showed a significant downward trajectory until 2008, reaching below 6%, likely due to economic reforms, EU accession in 2007, and strong growth. Following the global financial crisis, the UR increased sharply, peaking around 13% in 2013, reflecting economic downturn and labor market stress. From 2014 to 2019, a steady decline resumed, bringing unemployment down to approximately 4-5%, indicating recovery and improved labor market performance. Around 2020, a minor increase is observed due to the COVID-19 pandemic, but it was relatively contained in Bulgaria, and the rate stabilized again post-2020. The seasonally adjusted line smooths short-term fluctuations, while the trend line highlights long-term cycles: a falling trend (2000-2008), a rising trend (2008-2013), a renewed decline (2014-2019), and a flattening in recent years.

The modeling shows Bulgaria's labor market evolution shaped by macroeconomic shocks, structural adjustments, and policy interventions, with evidence of increasing resilience but persistent sensitivity to global disruptions.

Figure 4 illustrates the real GDP (RGDP) of Bulgaria from 1995 to 2024, displaying the actual RGDP values (light blue bars), the seasonally adjusted RGDP (orange dashed line), and the trend component (dark blue line). From the mid-1990s to the late 2000s, Bulgaria's RGDP exhibited a strong and steady growth trajectory, reflecting successful economic stabilization and structural reforms following the transition from a centrally planned economy. Between 2008 and 2013, growth decelerated markedly, with RGDP flattening due to the impact of the global financial crisis and the Eurozone sovereign debt crisis, mirroring a stagnation phase. Post-2013, the economy resumed a robust upward trend,

Figure 3: Seasonal and trend components dynamic peculiarities of Bulgarian unemployment rate



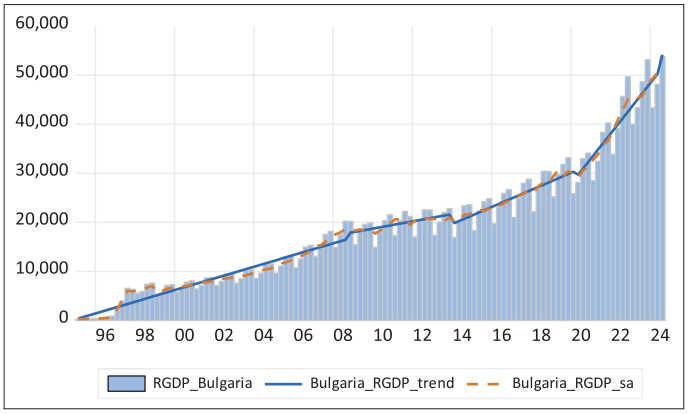
with consistent increases in output, interrupted briefly in 2020 by the COVID-19 pandemic, which caused a visible dip. However, the recovery was swift, and by 2021, RGDP levels rebounded, continuing to rise sharply through 2024. The seasonally adjusted and trend lines track closely, indicating that underlying economic growth has been relatively stable aside from brief shocks.

Providing the econometric analysis of UR and RGDP tradeoff, the inverse relationship between RGDP and unemployment becomes evident (Figure 5).

Periods of strong RGDP growth, such as 2001-2008 and 2014-2019, coincide with declining UR, while downturns in GDP growth, particularly 2008-2013, align with spikes in unemployment. The COVID-19 period (2020) shows a brief interruption in GDP growth and a minor uptick in unemployment, followed by stabilization in both indicators. This comparison underscores the procyclical nature of unemployment in response to economic performance and highlights Bulgaria's increased economic resilience and labor market stability in recent years.

Econometric analysis of UR and real Gross Domestic Product (RGDP) for Poland, Croatia, and the Czech Republic from 1996 to 2024 reveals distinct economic trajectories, precise numerical trends, and trade-offs between UR and RGDP. Modeling highlights each country's peculiarities and comparative dynamics.

Figure 4: Seasonal and trend components dynamic peculiarities of Bulgarian real GDP



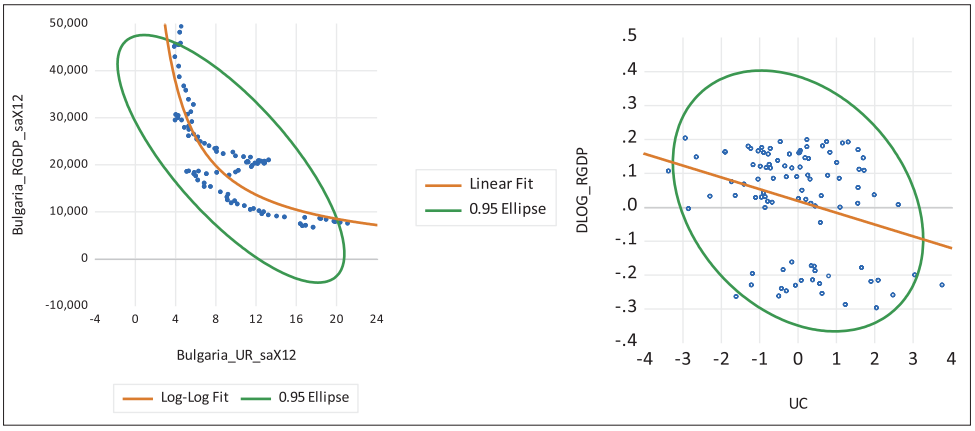
Poland's UR peaked at approximately 20% in 2002, declining sharply to 7% by 2008, 3% by 2019, rising to 5% in 2020, and recovering to 2.8% by 2024. Its RGDP grew from 1996 to 2024, with a minor dip (1-2% growth) around 2008 and 2020 contraction, followed by a rebound to 5-6% growth in 2021-2022 and 2.9% in 2024. The trade-off shows a robust inverse relationship: a 1% UR decrease (e.g., 20-19% post-2002) correlates with a significant RGDP increase, reflecting efficient labor market absorption during growth phases. Poland's peculiarity lies in its rapid post-2004 EU integration and diversified economy, enabling swift UR declines (7%-3% over 2008-2019) despite global shocks.

Croatia's UR reached 17-18% around 2013, dropping to 6.6% by 2019, rising to 8% in 2020, and recovering to 7% by 2024. Its RGDP increased from 1996 to 2024, with a 6-8% contraction during 2008-2010, a sharp 2020 drop, and a 6-7% rebound in 2021-2022, stabilizing at 2.8% in 2023. The UR-RGDP trade-off is less pronounced, with a 1% UR reduction (17-16% post-2013) yielding a modest RGDP gain, indicative of structural constraints like tourism dependency. Croatia's peculiarity is its lagged recovery, with UR remaining elevated (7% vs. Poland's 2.8%) despite RGDP growth, highlighting vulnerability to external shocks.

The Czech Republic's UR fluctuated between 6% and 9% in the late 1990s, peaked at 8% around 2003, fell to 3-4% by 2008, 2% by 2019, rose to 3% in 2020, and recovered to 2.5% by 2024. Its RGDP rose from 1996 to 2024, with minor dips (1-2%) in 2008 and 2020, followed by a 5% rebound in 2021-2022 and 2-3% in 2024. The trade-off is highly efficient, with a 1% UR drop (8-7% post-2003) driving a substantial RGDP increase, reflecting a stable industrial base. Its peculiarity is the consistently low UR (2-3% post-2019) and steady RGDP growth, suggesting effective labor market policies.

Comparatively, the Czech Republic outperforms with the lowest UR (2.5% vs. Poland's 2.8% and Croatia's 7%) and highest RGDP, indicating superior economic efficiency. Poland follows with a balanced UR-RGDP trade-off, leveraging diversification for resilience (5% UR recovery vs. Croatia's 7%). Croatia lags, with a higher UR and lower RGDP, reflecting a weaker trade-off due to tourism reliance. The analysis underscores that the Czech Republic and Poland optimize UR reductions with RGDP gains

Figure 5: Tradeoff relationship between unemployment rate and real GDP in Bulgaria



more effectively than Croatia, where structural limitations hinder this balance.

Figures 6–9 represent the UR and RGDP dynamics for 10 Eastern EU countries. The raw UR are depicted by light yellow bars, the seasonally adjusted UR by blue lines and the trend component by orange dashed lines. Poland (Figure 6a) started the 2000s with one of the highest UR in the region, exceeding 20%. A sharp decline followed between 2003 and 2008, driven by EU accession and labor market reforms. The global financial crisis caused a temporary increase (2009-2013), but since then, unemployment has steadily declined, stabilizing at historically low levels (around 3-4%) by 2020 and remaining stable through 2023. Croatia showed moderate unemployment in the early 2000s but experienced a severe and prolonged rise after 2009, peaking at nearly 18% in 2014 (Figure 6b). The recovery began later than in Poland and Czechia, but from 2015 onward, unemployment decreased steadily, reaching below 7% by 2023. Seasonal fluctuations remain more pronounced. Czechia consistently maintained the lowest and most stable unemployment levels (Figure 6c). After moderate fluctuations in the early 2000s and a mild rise during the 2009 crisis, unemployment fell rapidly after 2013. From 2017 onward, it remained below 3%, even during the pandemic period, indicating strong structural labor market conditions. In comparison, Czechia demonstrates the most resilient labor market, Poland reflects a successful long-term transition, while Croatia shows a delayed but improving trajectory. The differences highlight varying national capacities to absorb shocks and implement effective labor market policies.

Figure 6: Unemployment rate and real GDP dynamics for (a) Poland, (b) Croatia, (c) Czechia

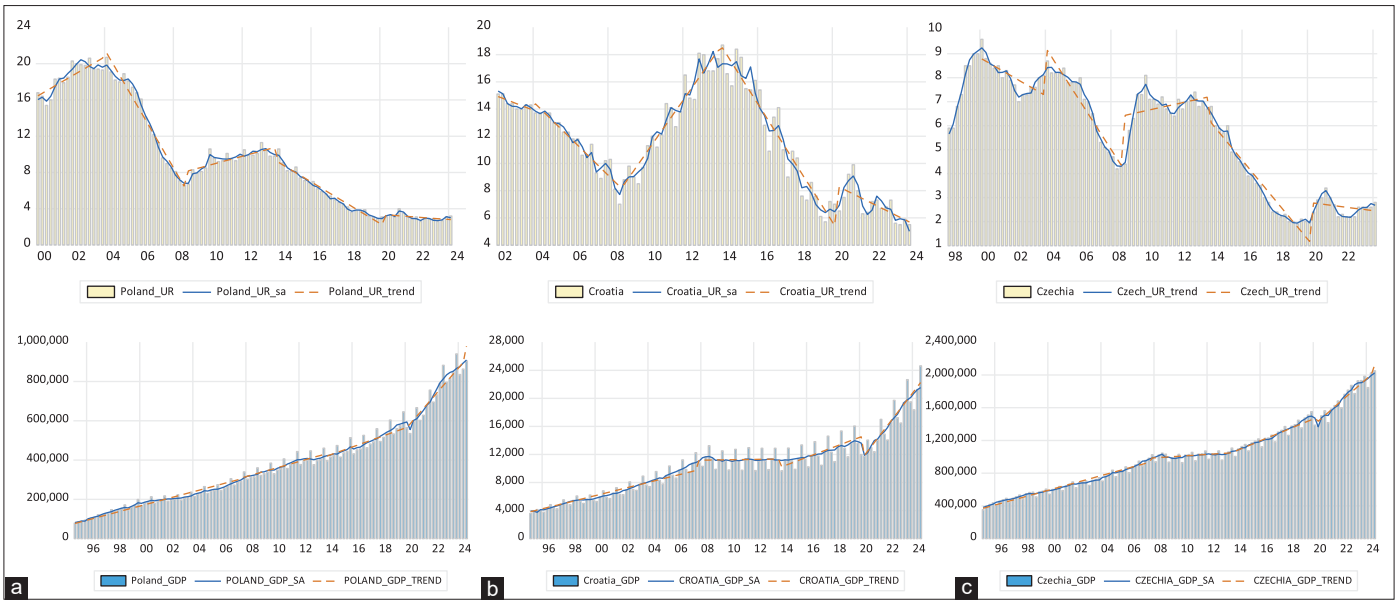


Figure 7: Unemployment rate and real GDP dynamics for (a) Estonia, (b) Latvia, (c) Lithuania

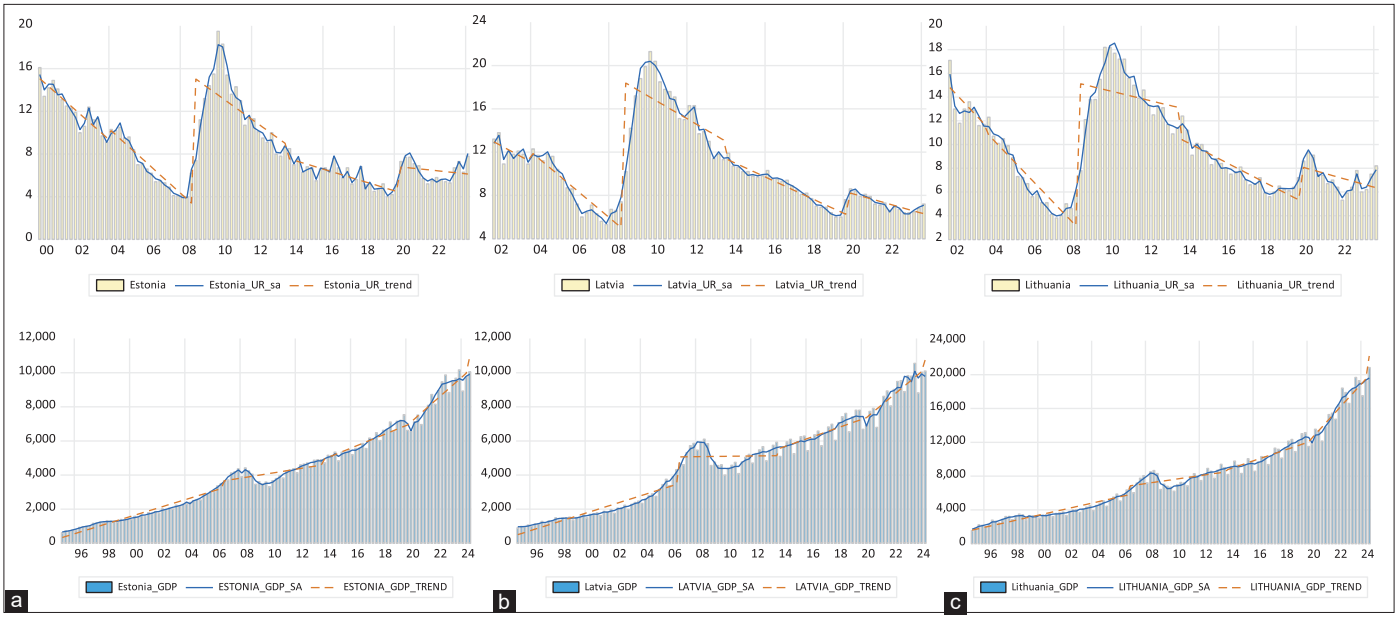


Figure 8: Unemployment rate and real GDP dynamics for (a) Romania, (b) Slovakia

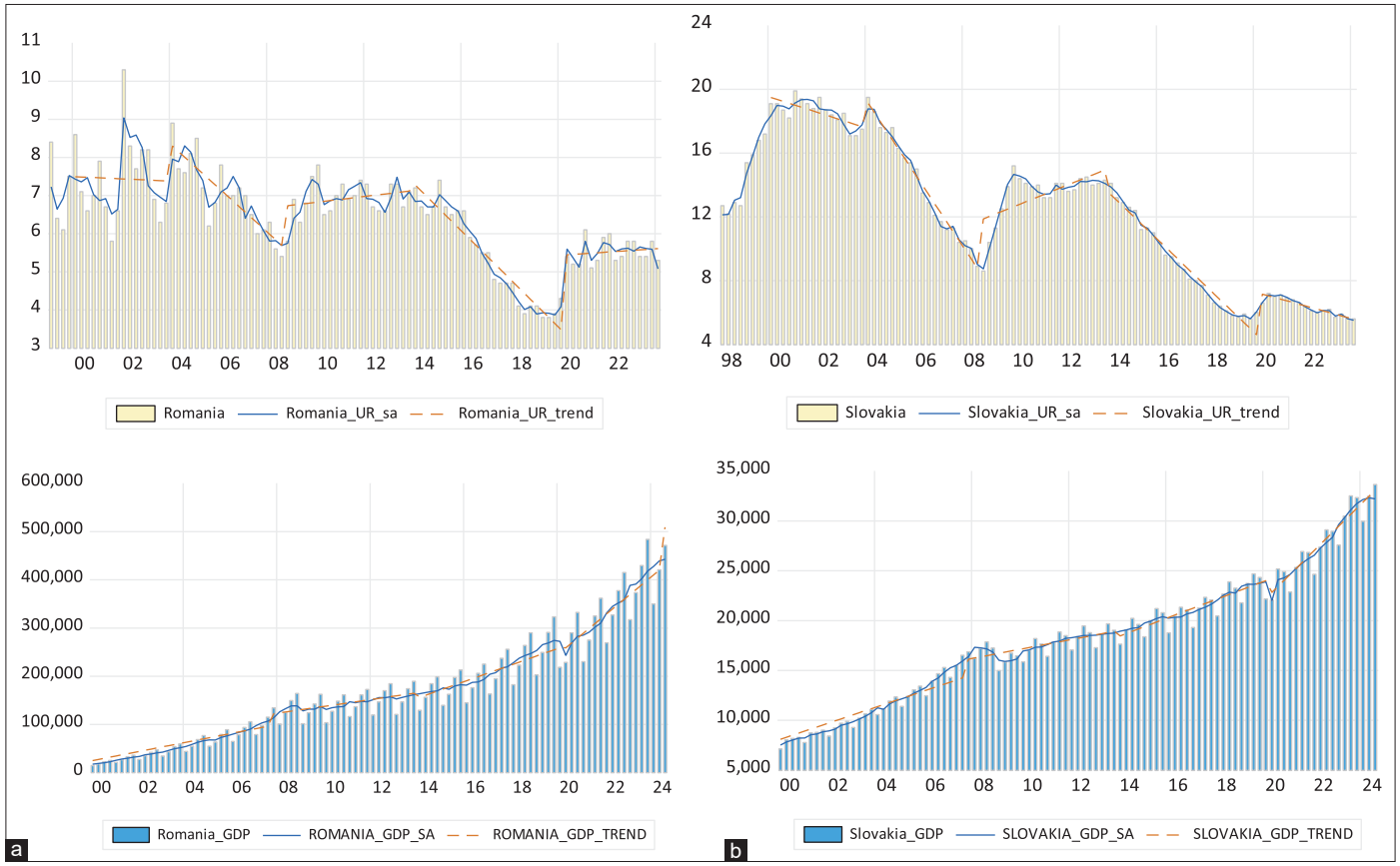
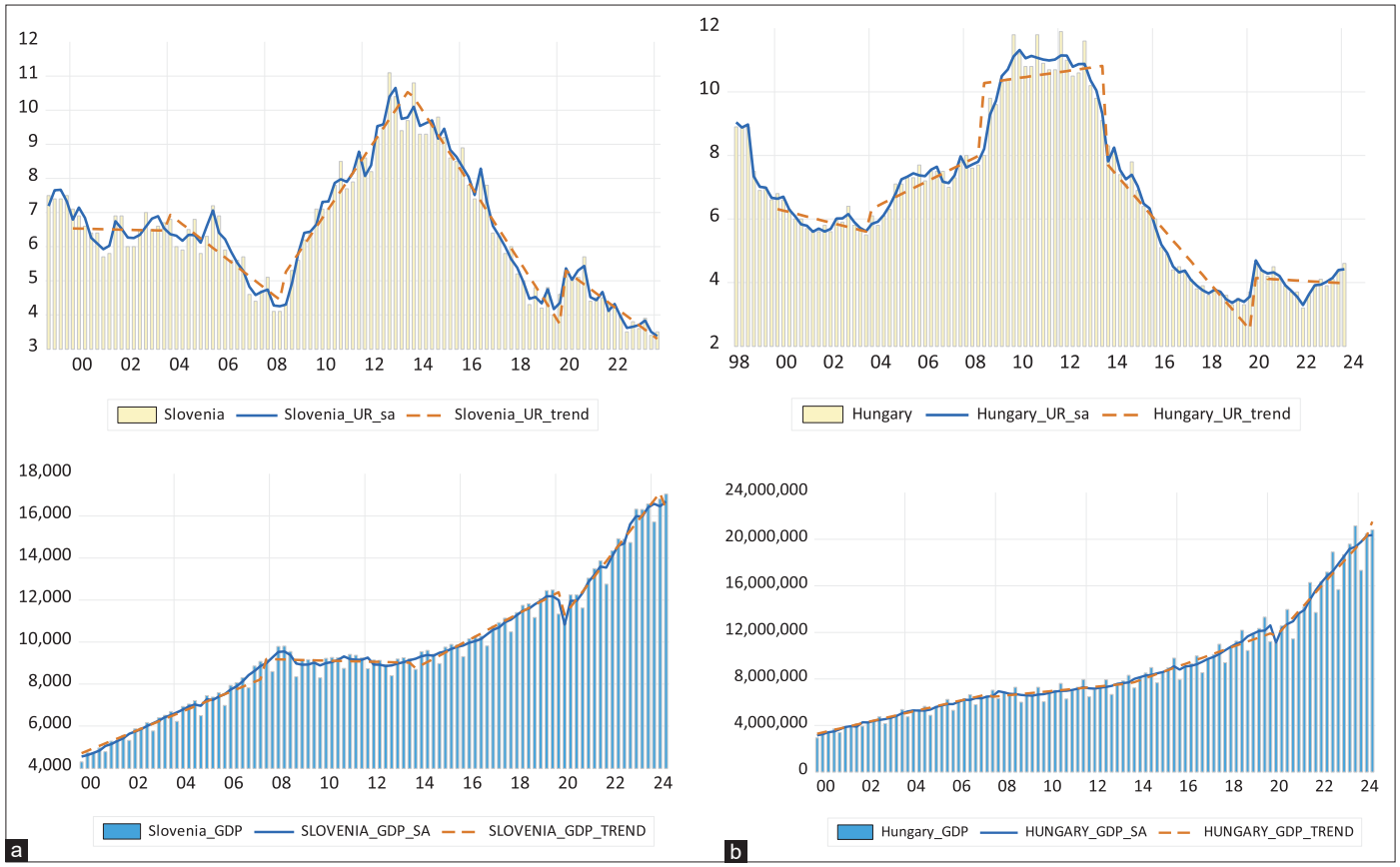


Figure 9: Unemployment rate and real GDP dynamics for (a) Slovenia; (b) Hungary



The econometric modeling indicates that all three Baltic countries – Estonia, Latvia, and Lithuania – experienced a significant surge in unemployment around 2008-2010, likely due to the global financial crisis, with Latvia showing the most severe impact (Figure 7). Post-2010, UR declined steadily across all three, suggesting a robust economic recovery, though recent trends (up to 2024) show stabilization with slight increases in Estonia and Lithuania, while Latvia maintains a lower rate. For RGDP, all countries saw a sharp decline during the same 2008-2009 period, followed by a strong recovery, with Lithuania demonstrating the most consistent upward trend in recent years. Estonia and Latvia exhibit more volatility, with recent data suggesting a slowdown or contraction. The relationship between unemployment and RGDP appears inversely correlated, with higher unemployment during periods of economic contraction (2008-2010) and lower unemployment as RGDP grew post-recovery. Currently, Lithuania's stronger RGDP growth aligns with a declining UR, while Estonia and Latvia's weaker growth corresponds with stable or slightly rising unemployment, reflecting varying economic resilience.

Romania's UR fluctuated around 7-9% in the late 1990s, peaked near 10% around 2000, then gradually declined to approximately 4-5% by 2019, with a slight uptick to 6% in 2020 followed by a recovery toward 4% by 2024, while its real GDP (RGDP) grew steadily from 1996 to 2024, with minor dips around 2008 and 2020 followed by consistent rebounds (Figure 8a). Slovakia's UR reached a high of 18-20% around 2001, declined sharply to 8% by 2008, further to 5% by 2019, rose to 7% in 2020, and recovered to 4-5% by 2024, with RGDP increasing from 1996 to 2024, showing a similar dip-and-recovery pattern during 2008 and 2020 (Figure 8b). The econometric analysis reveals an inverse relationship between UR and RGDP in both countries, with Slovakia exhibiting a more pronounced UR decline (20% to 4-5%) alongside a steeper RGDP growth compared to Romania's more moderate shifts, suggesting Slovakia's economy adapted more rapidly post-crisis, likely due to industrial restructuring, while Romania's steadier growth reflects a broader economic base. Comparatively, Slovakia's higher initial UR and subsequent sharp recovery indicate a more volatile yet resilient labor market, whereas Romania's lower volatility and larger RGDP base suggest a more stable but less dynamic economic response to shocks.

Slovenia's UR fluctuated around 7-8% in the late 1990s, peaked at approximately 10-11% around 2013, then declined steadily to 4-5% by 2019, rose slightly to 6% in 2020, and recovered to around 4% by 2024, while its real GDP (RGDP) grew steadily from a low base in 1996 to a higher level by 2024, with minor dips around 2008 and 2020 followed by consistent rebounds (Figure 9a). Hungary's UR varied between 6 and 8% in the late 1990s, surged to 10-11% around 2010-2012, declined to 3-4% by 2019, increased to 5% in 2020, and recovered to 3-4% by 2024, with RGDP rising from a low base in 1996 to a significantly higher level by 2024, showing similar dips during 2008 and 2020 with subsequent recoveries (Figure 9b). The analysis reveals an inverse relationship between UR and RGDP in both countries, with Hungary demonstrating a sharper UR decline (10-11% to 3-4%) and a more substantial RGDP growth compared to Slovenia's more moderate UR drop (11%-4%) and steadier RGDP increase, suggesting Hungary's economy leveraged industrial capacity more effectively post-crisis. Comparatively, Hungary's larger economic base and steeper UR recovery indicate greater resilience, while Slovenia's smaller scale and slower UR decline reflect a more cautious economic adjustment to global shocks.

The econometric analysis shows that all 11 countries exhibit a general inverse relationship between UR and RGDP, with UR typically peaking during economic downturns (e.g., 2008 and 2020) and declining during growth phases, reflecting adherence to Okun's Law, though the strength and responsiveness vary. Poland, Czech Republic, and Slovakia share a commonality of significant UR reductions (e.g., Poland from 20% to 2.8%, Czech from 8% to 2.5%, Slovakia from 20% to 4-5%) alongside robust RGDP growth, driven by industrial diversification and early EU integration (2004), setting them apart with resilient, dynamic economies. Croatia, Romania, and Slovenia show more moderate UR declines (e.g., Croatia from 17% to 7%, Romania from 10% to 4%, Slovenia from 11% to 4%) and steadier RGDP growth, with Croatia's tourism dependency and Slovenia's cautious adjustment contrasting Romania's broader economic base, indicating slower but stable recoveries. Hungary stands out with the sharpest UR drop (10-11% to 3-4%) and a notably large RGDP increase, reflecting industrial strength, while its volatility mirrors Slovakia's initial high UR. The dynamic peculiarities of Bulgaria, Estonia, Latvia, and Lithuania reveal distinct UR-RGDP trade-offs from 1996 to 2024. Bulgaria's gradual UR decline from a high peak to 4-5% by 2024, paired with steady RGDP growth and moderate rebounds post-2008 and 2020, suggests a stable but slow-adjusting economy with a modest trade-off favoring long-term stabilization over rapid employment gains. Estonia's sharp UR decline from a 16% peak to 4% by 2024, paired with robust RGDP recoveries, highlights a tech-driven resilience with a strong inverse trade-off where RGDP growth efficiently lowers UR, contrasting with Latvia's volatile UR peaking at 15-17% and stabilizing at 6% by 2024, where significant RGDP dips and rebounds reflect a less efficient trade-off amid economic instability. Lithuania's balanced UR drop from 12-14% to 5-6% by 2024, alongside steady RGDP growth, suggests a moderate trade-off blending stability and adaptability, positioning it between Estonia's pronounced resilience and Latvia's volatility.

4. CONCLUSION

The Eastern EU labor market has faced a combination of short-term and long-term challenges over the past few decades. Issues like youth unemployment, precarious work, regional inequalities, skills mismatches, and demographic changes have shaped the employment landscape across the union. Addressing these problems requires a mix of policy interventions, labor market reforms, and investments in education and training to better align workers' skills with the evolving demands of the global economy.

Econometric analysis of UR and real GDP (RGDP) tradeoff for Poland, Croatia, Czech Republic, Romania, Slovakia, Slovenia, Hungary, Bulgaria, Estonia, Latvia, and Lithuania from 1996 to 2024 reveals both similarities and differences, highlighting each country's peculiarities.

This investigation reveals that all 11 Eastern EU countries exhibit a statistically significant inverse relationship between UR and real GDP (RGDP), with post-2008 and 2020 recovery patterns providing evidence of sector-specific elasticities, where industrial economies like Poland, Czech Republic, and Hungary demonstrate a higher GDP elasticity of employment (approaching 2-3% RGDP growth per 1% UR decline) compared to tourism-reliant Croatia or tech-driven Estonia, which show lagged or non-linear responses. The analysis suggests that diversification, as seen in Romania and Bulgaria with steady RGDP growth moderating UR volatility, enhances economic resilience, while volatile recoveries in Latvia and Lithuania indicate structural rigidities that warrant targeted policy interventions. Furthermore, the rapid UR declines in Slovakia and Hungary, contrasted with Slovenia's cautious adjustment, point to varying degrees of labor market flexibility influenced by industrial capacity and policy frameworks. These findings highlight a critical trade-off between sectoral specialization and labor market adaptability, suggesting that countries with balanced economic bases may better withstand global shocks, while those with concentrated sectors face heightened vulnerability. Additionally, the observed differences in recovery speeds and UR-RGDP correlations underscore the need for tailored economic policies that account for historical legacies, such as post-socialist transitions, and current sectoral strengths, providing a robust scientific foundation for developing region-specific stabilization and growth strategies to optimize employment outcomes and foster long-term economic stability.

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