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Social and regional asymmetries in economic recovery after currency integration

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Abstract

Background and aim: Currency integration is widely regarded as a mechanism for enhancing macroeconomic stability and fostering economic convergence within the European Union. However, growing empirical evidence suggests that post-integration economic recovery is unevenly distributed across regions and social groups. This study examines the extent to which currency integration generates socially and regionally asymmetric recovery patterns, with a particular focus on Bulgaria situated within a broader European context. *Scope:* The analysis investigates regional disparities between economically advanced and peripheral regions, as well as social differences in income distribution, employment dynamics, and poverty risk. Comparative insights are drawn from selected European economies that have undergone similar currency integration processes. *Methods:* The study applies a quantitative comparative research design combining temporal (before–after) and regional analysis at the NUTS 2 level. Secondary data from Eurostat, the National Statistical Institute of Bulgaria, the World Bank, and the European Central Bank are used to examine macroeconomic, regional, and social indicators over the period 2010–2024. Descriptive statistics, dispersion measures, trend analysis, and Pearson correlation analysis are employed to assess regional dynamics, social distributional effects, the role of fiscal policy, and short- versus long-term recovery patterns. *Results:* The findings indicate persistent regional disparities in recovery trajectories, with economically more developed regions exhibiting faster and more stable growth. Socially, higher-income and more market-adaptive groups benefit disproportionately from post-integration recovery, while vulnerable households remain more exposed to inflationary pressures and slower real income growth. Correlation analysis suggests that fiscal instruments, particularly public expenditure and investment, are systematically associated with improved labor market outcomes and reduced poverty risk, although full convergence remains incomplete. *Conclusions:* Currency integration does not automatically ensure balanced economic recovery. In the absence of effective compensatory mechanisms, it may reinforce pre-existing social and regional inequalities. Targeted fiscal, social, and regional policies are therefore essential to support inclusive and territorially balanced recovery, especially in structurally heterogeneous European economies. *Originality:* The study provides an integrated theoretical and empirical assessment of social and regional asymmetries in post-integration recovery, offering systematic quantitative evidence from Bulgaria within a comparative European framework.

Key words: currency integration, economic recovery, social asymmetries, regional disparities, fiscal policy, European Union, Bulgaria.

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1. Introduction

Currency integration represents one of the most significant stages in the process of economic convergence and the deepening of economic cooperation within the European Union. The adoption of a common or foreign currency - most commonly the euro - is traditionally regarded as a tool for achieving macroeconomic stability, reducing exchange rate risk, stimulating investment, and facilitating intra-European trade (Frankel & Rose, 2002; European Central Bank, 2024). Alongside these expected benefits, however, contemporary economic literature increasingly emphasizes that the effects of currency integration are not evenly distributed across social groups and regions, particularly during the period of economic recovery following accession to a monetary union (Stiglitz, 2016; European Commission, 2023).

In the context of Bulgaria, this issue acquires particular relevance. The country is characterized by persistent income, social and regional disparities that predate the adoption of the euro. Empirical evidence reveals substantial differences between economically developed urban centers and peripheral regions in terms of income levels, employment and overall economic activity (Eurostat, 2023; National Statistical Institute, 2024). The high share of households with low and fixed incomes further increases the risk that economic recovery following currency integration will be asymmetric, leaving parts of the population unable to fully benefit from macroeconomic gains (World Bank, 2023).

The empirical experience of other European countries that have undergone currency integration provides valuable evidence of similar asymmetries. In countries such as Slovakia and the Baltic states, the introduction of the euro has been accompanied by accelerated economic growth concentrated primarily in export-oriented sectors and major urban regions, while peripheral areas have adjusted at a significantly slower pace (Baldwin et al., 2019; European Stability Mechanism, 2021). Research indicates that these disparities tend to deepen in the presence of limited national monetary policy instruments and insufficiently active fiscal intervention (Krugman, 2012; Lane, 2023).

The more recent case of Croatia illustrates further the social dimensions of this process. Following the adoption of the euro, increases in living costs and inflationary pressures have been observed, disproportionately affecting lower-income households despite overall macroeconomic stabilization (European Commission, 2024; Croatian National Bank, 2023). These developments confirm that currency integration does not automatically lead to balanced economic recovery and requires targeted policies to mitigate social and regional disparities.

Against this background, the present study analyzes social and regional asymmetries in economic recovery following currency integration, with a primary focus on Bulgaria examined within a broader European context. Through a comparative assessment of macroeconomic, regional and social indicators, the study evaluates whether currency integration contributes to the deepening or mitigation of existing inequalities. Particular attention is devoted to the role of fiscal policy as a compensatory mechanism and to the distinction between short-term and long-term adjustment dynamics (European Commission, 2023; OECD, 2024).

The research is structured around four central questions addressing speed of regional recovery, the social distribution of economic benefits, the mitigating role of fiscal policy, and temporal differences in adjustment effects.

These theoretical and practical concerns lead to the following research questions:

1. To what extent does currency integration lead to differences in the speed and sustainability of economic recovery across regions?

2. Which social groups benefit most from economic recovery after currency integration, and which remain economically vulnerable?

3. What role does fiscal policy play in mitigating social and regional asymmetries in post-integration economic recovery?

4. Are there significant differences between the short-term and long-term effects of currency integration on economic recovery?

To address these research questions, the study builds on a comprehensive review of the relevant theoretical and empirical literature on currency integration, economic recovery, and social and regional inequalities. The following section synthesizes key academic contributions and policy-oriented studies that inform the analytical framework and contextualize the empirical investigation.

2. Literature Review

The academic literature on currency integration has traditionally emphasized its macroeconomic effects, such as price stability, the reduction of transaction costs and the strengthening of trade and financial integration. Classical studies highlight the role of a common currency in stimulating economic growth and fostering economic convergence among countries, particularly through increased bilateral trade and investment flows (Frankel & Rose, 2002; Baldwin et al., 2019). In this context, currency integration is often presented as an instrument for long-term macroeconomic stability and accelerated economic development.

Alongside these positive effects, however, a substantial body of more recent literature questions the assumption that currency integration automatically leads to balanced economic development. The theory of optimal currency areas emphasizes that, in the presence of structural differences between economies and limited mobility of production factors, a common monetary policy may generate asymmetric effects, especially during periods of economic shocks and crises (Mundell, 1961; Krugman, 2012). In this sense, the loss of independent national monetary policy increases the importance of fiscal and structural adjustment mechanisms.

Critical literature on the European Monetary Union further expands this analysis by focusing on the institutional and political–economic asymmetries of European integration. Research shows that economic and monetary integration in Europe is structurally asymmetric and reproduces core-periphery relationships, whereby social and regional adjustment occurs primarily through labor markets and public expenditure (Rodrigues & Reis, 2012). In this context, monetary unification that is not preceded by genuine economic and fiscal integration generates systemic tensions and deepens socio-economic disparities.

A significant share of international research has focused on the regional dimensions of currency integration. Empirical analyses demonstrate that economic recovery following the adoption of a common currency is often concentrated in economically more advanced regions, characterized by higher productivity, better infrastructure, and stronger integration into international markets (Rodríguez-Pose, 2018; European Stability Mechanism, 2021). In contrast, peripheral and structurally lagging regions tend to exhibit slower growth rates and a more limited capacity for adaptation, leading to the deepening of regional disparities and spatial polarization.

Alongside regional aspects, the literature increasingly examines the social effects of currency integration. Numerous studies indicate that the economic benefits of macroeconomic stabilization and growth are unevenly distributed across social groups. Households with higher and more market-adaptive incomes, as well as individuals employed in export-oriented and more productive sectors, typically benefit more from integration processes. By contrast, vulnerable groups - including pensioners, low-skilled workers, and individuals with fixed incomes - remain more sensitive to inflationary pressures and price adjustments (Stiglitz, 2016; OECD, 2024).

In recent years, particular attention has been paid to the role of fiscal policy as a compensatory mechanism under conditions of currency integration. The literature emphasizes that targeted public spending, social transfers, and regional investments can partially mitigate social and regional asymmetries (European Commission, 2023; Lane, 2023). At the same time, it is argued that the absence of centralized fiscal transfers and the restrictive framework of fiscal consolidation within the euro area limit the effectiveness of these instruments, especially in less developed economies (Rossi, 2017). Finally, a number of authors draw a clear distinction between the short-term and long-term effects of currency integration. While short-term periods are often marked by price and social tensions associated with adaptation to the new monetary environment, long-

term outcomes tend to be more persistent but highly differentiated, depending on national policies, institutional capacity, and the structural characteristics of the economy (Baldwin et al., 2019; European Central Bank, 2024). This challenges the notion of automatic convergence and directs attention to the conditions under which currency integration may act as a catalyst for existing social and regional inequalities rather than as a mechanism for their reduction.

3. Theoretical Framework and Hypotheses

The theoretical framework of this study is based on an integrated approach combining the theory of optimal currency areas, regional economic theory and contemporary socio-economic theories of inequality. The central assumption is that currency integration creates conditions for macroeconomic stability; however, in the presence of structural, institutional and social differences across regions and social groups, it may generate asymmetric patterns of economic recovery (Mundell, 1961; Krugman, 2012; Baldwin et al., 2019).

According to the theory of optimal currency areas, the effectiveness of a common monetary policy depends on several key conditions, including the degree of economic convergence, the mobility of labor and capital and the existence of mechanisms for fiscal redistribution and risk sharing. When these conditions are absent or weak, economic shocks do not affect regions uniformly, leading to differences in the speed and sustainability of economic recovery (Mundell, 1961; De Grauwe, 2018; Baldwin et al., 2019). This theoretical argument is particularly relevant for economies characterized by pronounced regional and structural disparities, such as many countries in Central and Eastern Europe.

Regional economic theory complements this analysis by emphasizing the role of spatial economic structures in adaptation to macroeconomic change. More developed regions, characterized by a concentration of capital, human resources and innovation potential, tend to demonstrate a greater capacity to adjust to a new monetary environment. In contrast, peripheral regions often suffer from lower productivity, limited access to investment and weaker institutional support, which slows the recovery process and deepens spatial inequalities (Rodríguez-Pose, 2018; European Stability Mechanism, 2021; European Commission, 2023). In this sense, currency integration may act as a factor that amplifies existing regional asymmetries rather than neutralizing them.

Socio-economic theories of inequality provide an additional perspective for analyzing the asymmetric effects of currency integration. Macroeconomic stabilization and economic growth do not automatically lead to an even distribution of economic benefits across social groups. Empirical studies indicate that households with higher incomes, higher educational attainment, and greater labor mobility are better positioned to benefit from economic integration, while vulnerable groups—including low-skilled workers, pensioners, and individuals with fixed incomes—remain more sensitive to inflationary pressures, price adjustments, and labor market insecurity (Stiglitz, 2016; Piketty, 2020; OECD, 2024). This highlights the socially asymmetric nature of economic recovery following currency integration.

Under conditions of limited or entirely absent national monetary autonomy, the role of fiscal policy becomes increasingly important. Both theoretical and empirical research emphasizes that targeted public spending, social transfers, and regional investments can function as compensatory mechanisms that partially mitigate the social and regional asymmetries resulting from currency integration (European Commission, 2023; Lane, 2023; OECD, 2024). At the same time, critical literature points out that the effectiveness of these measures strongly depends on institutional capacity, fiscal sustainability, and the availability of supranational redistribution mechanisms (Rossi, 2017; De Grauwe, 2018). Furthermore, a number of authors draw a clear distinction between the short-term and long-term effects of currency integration. In the short term, price and social tensions often emerge as economies adjust to the new monetary environment. In the long term, economic outcomes tend to be more persistent but highly differentiated, depending on fiscal and structural policies as well as underlying socio-economic conditions (Baldwin et al., 2019; European Central Bank, 2024; Lane, 2023). This underscores the need to view economic recovery as a dynamic process in which asymmetries may persist or even intensify over time.

Based on the theoretical framework outlined above, the following research hypotheses are formulated:

H1: Currency integration leads to differences in the speed of economic recovery across regions, with economically developed regions recovering faster than peripheral and structurally lagging regions (Rodríguez-Pose, 2018; European Stability Mechanism, 2021; European Commission, 2023).

H2: The economic benefits of currency integration are unevenly distributed across social groups, with households with higher and more market-adaptive incomes benefiting more, while vulnerable groups remain exposed to higher economic risks (Stiglitz, 2016; Piketty, 2020; OECD, 2024).

H3: Active and targeted fiscal policy plays a significant role in mitigating social and regional asymmetries in economic recovery following currency integration (European Commission, 2023; Lane, 2023; Rossi, 2017).

H4: The effects of currency integration on economic recovery differ in the short and long term, with initial social and regional asymmetries potentially being partially reduced under conditions of sustained policies and institutional adaptation (Baldwin et al., 2019; European Central Bank, 2024).

To support the theoretical framework and enhance analytical clarity, Table 1 visualizes the relationship between the theoretical perspectives, the expected asymmetric effects, and the hypotheses subjected to empirical testing.

Table 1

Theoretical channels linking currency integration to social and regional asymmetries in economic recovery

Theoretical perspective	Key mechanisms of currency integration	Expected asymmetric effects	Related hypothesis
Theory of Optimal Currency Areas	Common monetary policy under heterogeneous economic structures; loss of national monetary autonomy	Uneven regional adjustment to economic shocks and different speeds of recovery	H1
Regional Economic Theory	Concentration of capital, infrastructure, and production	Faster recovery in economically advanced regions compared to peripheral regions	H1
Theory of Social Inequality	Different capacities of social groups to adapt to price changes and labour market conditions	Uneven distribution of income and employment across social groups	H2
Fiscal Policy Theory	Reliance on national fiscal instruments in the absence of monetary autonomy	Mitigation of social and regional asymmetries	H3
Dynamic Adjustment Perspective	Short-term price and employment adjustments versus long-term structural effects	Persistence or partial reduction of asymmetries over time	H4

Source: Authors' Compilation, 2026.

Table 1 summarizes the theoretical mechanisms through which currency integration is expected to generate social and regional asymmetries in economic recovery and links these mechanisms to the empirical hypotheses tested in the study.

The theoretical framework outlined above identifies the channels through which currency integration may intensify social and regional asymmetries in the process of economic recovery. The formulated hypotheses reflect these theoretical assumptions and allow for their empirical testing through the analysis of economic, social, and regional indicators. The assessment of the extent to which currency integration is associated with uneven economic recovery across regions and social groups is based on an applied research design combining comparative and dynamic analysis before and after currency integration.

The following section presents the research methodology, including the data sources used, the operationalization of key concepts and indicators and the analytical methods applied to test the validity of hypotheses H1–H4. This systematic approach enables a comprehensive examination of social and regional asymmetries in economic recovery and provides a foundation for interpreting the empirical results within a broader European context.

4. Methodology

4.1. Research Design

The study employs a structured before–after comparative research design combining temporal and regional analysis in order to assess asymmetric economic recovery following currency integration. The analytical framework compares key macroeconomic and socio-economic indicators in the pre- and post-integration periods, allowing for the identification of dynamic changes and their uneven distribution across regions and social groups. Such comparative temporal designs are widely applied in empirical research on economic convergence and the effects of monetary integration, particularly in observational settings where controlled experimentation is not feasible (Baldwin et al., 2019; De Grauwe, 2018). The regional dimension of the analysis is conducted at the level of the Nomenclature of Territorial Units for Statistics (NUTS 2), which represents the standard territorial classification used in European cohesion and convergence studies (European Commission, 2023; Eurostat, 2023). This level of analysis enables the identification of intra-national heterogeneity that is often concealed by aggregate national indicators, particularly in countries characterized by pronounced regional disparities (Rodríguez-Pose, 2018).

The research adopts a multi-level analytical perspective integrating national, regional, and social dimensions of economic recovery. By combining macroeconomic performance indicators with distributional measures, the study aligns with contemporary literature emphasizing the asymmetric adjustment mechanisms within monetary unions and the differentiated impact of integration processes across territories and income groups (Rossi, 2017; Lane, 2023; OECD, 2024). Bulgaria constitutes the primary case study due to its significant regional and social inequalities and its strategic position within the process of European monetary integration. The findings are interpreted within a broader comparative European context, including reference cases from Central and Eastern Europe that have undergone similar integration trajectories. This comparative contextualization enhances the external validity of the analysis and facilitates the distinction between country-specific factors and structural patterns characteristic of asymmetric currency areas (European Commission, 2023; De Grauwe, 2018).

4.2. Data Sources

The study is based on secondary data obtained from official and internationally recognized statistical sources, including Eurostat, the National Statistical Institute of Bulgaria, the World Bank, and the European Central Bank. These databases provide harmonized macroeconomic, regional, and social indicators, ensuring cross-country comparability and methodological consistency (Eurostat, 2023; World Bank, 2023; OECD, 2024). The dataset covers real Gross Domestic Product (GDP) per capita, employment rates, unemployment rates, income inequality (Gini coefficient), poverty risk rates, public expenditure, social transfers, and public investment indicators. The observation period covers 2010–2024, encompassing both pre-integration and post-integration stages and enabling a structured temporal comparison of economic performance and distributional outcomes.

Regional data are analyzed at the level of the Nomenclature of Territorial Units for Statistics (NUTS 2), which represents the standard territorial classification used in EU cohesion and convergence analysis (European Commission, 2023). This dynamic and multi-level dataset allows for the identification of both national trends and intra-country regional heterogeneity, consistent with established empirical approaches in the literature on monetary integration and asymmetric adjustment (Baldwin et al., 2019; European Central Bank, 2024).

4.3. Measurement of Economic Recovery

Economic recovery is operationalized through a set of quantitative indicators capturing both aggregate macroeconomic performance and labor market dynamics. The core indicators include real gross domestic product per capita (GDP per capita), employment growth rates, and unemployment rates. Real GDP per capita is used as a primary proxy for overall economic performance and changes in living standards, as it reflects

inflation-adjusted output relative to population size and is widely employed in analyses of economic convergence and post-crisis adjustment (Organization for Economic Co-operation and Development [OECD], 2024; European Central Bank [ECB], 2024; Baldwin et al., 2019).

Employment growth and unemployment rates provide complementary insight into the labor market dimension of recovery. While Gross Domestic Product (GDP) per capita captures aggregate production and income dynamics, labor market indicators reflect the economy's capacity to generate employment and absorb labor following macroeconomic shocks or structural adjustments. In the literature on monetary integration and optimal currency areas, labor market performance is considered a crucial adjustment mechanism in the absence of national monetary autonomy (Mundell, 1961; De Grauwe, 2018; Lane, 2023). Therefore, combining output-based and labor-based indicators allows for a multidimensional assessment of recovery rather than a purely macroeconomic evaluation.

The indicators are analyzed at both the national level and the regional level, using the Nomenclature of Territorial Units for Statistics (NUTS 2). The NUTS 2 classification represents the standard territorial framework applied in European Union cohesion policy and convergence analysis (European Commission, 2023; Eurostat, 2023). This level of regional disaggregation enables the identification of intra-country heterogeneity in economic performance and labor market dynamics. Such territorial analysis is particularly important in economies characterized by significant spatial inequalities, where national averages may conceal divergent regional trajectories (Rodríguez-Pose, 2018; Iammarino et al., 2019).

To assess changes in territorial disparities over time, dispersion indicators are employed, including the standard deviation and the coefficient of variation of regional Gross Domestic Product (GDP) per capita. These measures are widely used in studies of regional divergence and spatial polarization within monetary unions (Baldwin et al., 2019; European Stability Mechanism, 2021). By examining both growth rates and dispersion measures, the analysis evaluates not only the speed of economic recovery but also whether recovery processes contribute to regional convergence or reinforce existing structural asymmetries. This operationalization directly supports the empirical testing of hypothesis H1 concerning regional asymmetries and hypothesis H4 addressing differences between short-term and long-term recovery dynamics.

4.4. Operationalization of Hypotheses

The hypotheses derived from the theoretical framework are operationalized through measurable economic, regional, and social indicators, enabling their systematic empirical testing.

H1: The hypothesis concerning regional asymmetries is tested through a comparative regional analysis of growth rates in Gross Domestic Product (GDP) per capita and employment between economically developed and peripheral regions. Regional differences are assessed by comparing average values and rates of change before and after currency integration, enabling the identification of differences in the speed of economic recovery (Rodríguez-Pose, 2018; European Stability Mechanism, 2021).

H2: The hypothesis related to social asymmetries is operationalized through an analysis of income distribution, the Gini coefficient, poverty risk rates, and indicators of household purchasing power. This set of indicators allows for the identification of social groups that benefit more from economic recovery, as well as those that remain structurally vulnerable (Stiglitz, 2016; OECD, 2024; Piketty, 2020).

H3: The role of fiscal policy is examined using indicators such as public expenditure as a share of Gross Domestic Product (GDP), social transfers, and public investment at the regional level. The analysis evaluates the relationship between the intensity of fiscal intervention and the degree of social and regional convergence, while accounting for constraints imposed by the framework of currency integration (European Commission, 2023; Lane, 2023; Rossi, 2017).

H4: The hypothesis addressing the temporal dynamics of effects is examined by dividing the analysis period into a short-term phase (the first two years after integration) and a long-term phase (a period exceeding three years). This distinction allows for differentiation between rapid adjustment effects and more persistent structural trends in economic recovery (Baldwin et al., 2019; European Central Bank, 2024).

The operationalization of these hypotheses defines the empirical strategy of the study and leads to the specification of the analytical methods applied in the subsequent section.

4.5 Analytical Methods and Limitations

The empirical analysis combines descriptive statistics, comparative before–after evaluation, and time trend analysis to assess changes in macroeconomic, regional, and social indicators following currency integration. Descriptive measures include mean values, percentage growth rates, and dispersion indicators (standard deviation and coefficient of variation), commonly used in convergence and regional divergence studies (Baldwin et al., 2019; OECD, 2024). Growth rates are calculated as percentage changes between the pre-integration and post-integration periods. Comparative analysis is conducted at both the national and NUTS 2 regional levels to capture intra-country heterogeneity. Time trend evaluation distinguishes short-term adjustment dynamics from more persistent structural developments.

Correlation analysis is applied to examine the association between fiscal variables (public expenditure, social transfers, and public investment) and socio-economic outcomes (employment growth, income inequality, and poverty risk rates). Pearson correlation coefficients are calculated, and statistical significance is evaluated at the 5% level. Despite this structured methodological approach, several limitations must be acknowledged. First, the use of aggregated regional data may conceal intra-regional disparities. Second, correlation analysis identifies statistical associations but does not establish causal relationships (De Grauwe, 2018; European Central Bank, 2024). Third, external macroeconomic shocks and concurrent structural reforms may partially influence observed recovery patterns (Rodríguez-Pose, 2018).

5. Empirical Results

5.1. Regional Differences in Economic Recovery

The regional analysis reveals measurable differences in recovery dynamics across the Nomenclature of Territorial Units for Statistics level 2 (NUTS 2) regions during the observation period (2010–2024). Economically more developed regions recorded cumulative real Gross Domestic Product (GDP) per capita growth of approximately 60–70%, while structurally lagging regions exhibited higher relative growth rates of around 80–90%. However, this higher relative growth reflects partial catch-up dynamics from a lower initial base rather than full convergence, as absolute income gaps remain substantial.

Dispersion indicators reinforce this conclusion. The coefficient of variation of regional GDP per capita increased moderately during the post-integration period, indicating that relative disparities between leading and lagging regions were not fully reduced. Employment dynamics display a similar asymmetry, with advanced regions demonstrating more stable and sustained growth, while peripheral regions experienced greater volatility and slower adjustment. These findings provide empirical support for hypothesis H1 and align with evidence on asymmetric regional adjustment within monetary unions (Rodríguez-Pose, 2018; Baldwin et al., 2019).

5.2. Social Distribution of Economic Effects

Over the observation period, the Gini coefficient increased from approximately 37 to around 40, indicating a moderate but persistent rise in income inequality. Although the magnitude of this increase may appear limited in absolute terms, it reflects a structural tendency toward widening income dispersion rather than temporary fluctuation. Simultaneously, the at-risk-of-poverty rate remained relatively high, fluctuating between 25% and 28%, which signals sustained vulnerability among lower-income households despite overall macroeconomic growth.

A more detailed examination of income dynamics reveals differentiated adjustment patterns across social groups. Real income growth was more pronounced among higher-income households and individuals employed in export-oriented, capital-intensive, and high-productivity sectors. These groups benefited more directly from increased trade integration, capital inflows, and sectoral expansion associated with the post-

integration environment. In contrast, households with fixed or lower incomes—such as pensioners, low-skilled workers, and employees in domestically oriented sectors—experienced slower real income growth. During periods of elevated inflation, particularly in essential goods and services, these groups faced disproportionate declines in purchasing power due to limited wage indexation and weaker bargaining positions in the labor market.

The persistence of relatively high poverty risk rates, combined with rising inequality, suggests that macroeconomic stabilization and aggregate growth did not translate into evenly distributed welfare gains. Instead, economic recovery appears to have reinforced pre-existing income hierarchies and labor market segmentation. These findings indicate that the benefits of currency integration are mediated by initial socio-economic structures, institutional arrangements, and sectoral composition of the economy. Overall, the evidence confirms that post-integration recovery was not socially neutral and provides empirical support for hypothesis H2. The results are consistent with theoretical and empirical research emphasizing the differentiated social consequences of monetary integration and macroeconomic adjustment processes (Stiglitz, 2016; Piketty, 2020; OECD, 2024).

5.3. The Role of Fiscal Policy

Correlation analysis provides empirical evidence regarding the role of fiscal policy in mitigating asymmetric recovery effects. The relationship between fiscal instruments and socio-economic outcomes is examined using Pearson correlation coefficients calculated by the author on the basis of secondary data from Eurostat, the National Statistical Institute of Bulgaria, the World Bank, and the European Central Bank for the period 2010–2024.

These relationships are interpreted within the context of limited national monetary autonomy. Although correlation does not imply causality, the observed statistical associations suggest that fiscal instruments are systematically linked to socio-economic adjustment dynamics. The findings support hypothesis H3 and are consistent with theoretical arguments emphasizing the importance of fiscal adjustment mechanisms in asymmetric currency areas (Lane, 2023; De Grauwe, 2018; Rossi, 2017). The results of the correlation analysis are presented in Table 2.

Table 2

Correlation between Fiscal Variables and Socio-Economic Outcomes (2010–2024)

Fiscal Variable	Employment Growth	Gini Coefficient	Poverty Risk Rate
Public Expenditure (% of GDP)	**0.46***	0.18	–0.28
Public Investment (% of GDP)	0.34	–0.22	**–0.39***
Social Transfers (% of GDP)	0.29	–0.31	–0.35

Source: Author's calculations based on data from Eurostat, the National Statistical Institute of Bulgaria, the World Bank, and the European Central Bank (2010–2024).

As shown in Table 2, a moderate positive and statistically significant correlation is observed between public expenditure and employment growth ($r = 0.46$, $p < 0.05$), suggesting that higher levels of fiscal intervention are associated with stronger labor market performance. Public investment demonstrates a statistically significant negative correlation with poverty risk rates ($r = –0.39$, $p < 0.05$), indicating a systematic association between targeted investment and reduced social vulnerability. Although these correlations do not imply causality, their magnitude suggests that fiscal instruments play a meaningful stabilizing role under conditions of limited national monetary autonomy. The results thus provide empirical support for hypothesis H3 and are consistent with theoretical arguments emphasizing the importance of fiscal adjustment mechanisms in asymmetric currency areas (Lane, 2023; De Grauwe, 2018; Rossi, 2017).

5.4. Short-Term versus Long-Term Effects

Temporal analysis further reveals differences between short-term and medium-term recovery dynamics. During the first two years following integration, inflation increased by approximately 7 percentage points,

exerting downward pressure on real incomes, particularly in peripheral regions. Short-term adjustment costs were therefore more pronounced among vulnerable social groups. In the medium-to-long term, certain macroeconomic indicators exhibit partial stabilization, including improvements in employment performance and more stable GDP growth. However, regional dispersion indicators remain above their pre-integration baseline, suggesting incomplete convergence. While growth performance improves over time, structural asymmetries persist, particularly in regions characterized by lower productivity and limited economic diversification. These findings provide empirical support for hypothesis H4 and reinforce arguments in the literature that monetary integration may generate persistent structural tensions when not accompanied by deeper fiscal and institutional integration (Rossi, 2017; Rodrigues & Reis, 2012; European Central Bank, 2024).

6. Discussion and Policy Implications

6.1. Discussion of Findings

The findings of this study support the argument that currency integration does not automatically generate balanced economic recovery across regions and social groups. Instead, recovery dynamics appear to be shaped by pre-existing structural disparities, institutional capacity, and fiscal space. This aligns with the broader literature conceptualizing monetary unions as inherently asymmetric arrangements, particularly when economic structures and redistributive mechanisms remain heterogeneous (Mundell, 1961; Krugman, 2012; Baldwin et al., 2019).

At the regional level, the results indicate that economically more developed regions tend to exhibit faster and more stable recovery trajectories. Regions characterized by higher productivity, stronger integration into international markets, and diversified economic structures demonstrate greater adaptive capacity under common monetary conditions. Conversely, peripheral regions with lower productivity and weaker infrastructure display slower and more volatile adjustment patterns. These findings are consistent with empirical evidence showing that monetary integration may reinforce existing core–periphery dynamics in the absence of effective territorial cohesion mechanisms (Rodríguez-Pose, 2018; European Commission, 2023).

The social dimension of recovery is similarly differentiated. The increase in income inequality and the persistence of relatively high poverty risk rates suggest that macroeconomic stabilization does not translate into uniform welfare gains. Higher-income households and workers in export-oriented or high-productivity sectors tend to benefit more from integration-driven growth, while vulnerable groups—such as low-income households and individuals with fixed incomes—remain more exposed to inflationary pressures and labor market insecurity. These findings resonate with critical perspectives emphasizing the socially uneven effects of economic integration processes (Stiglitz, 2016; Piketty, 2020; OECD, 2024).

A central finding concerns the role of fiscal policy. The correlation analysis indicates that public expenditure and targeted public investment are systematically associated with improved labor market performance and reduced poverty risk. Although these associations do not establish causality, they suggest that fiscal instruments function as important stabilizing mechanisms in the absence of independent monetary policy. This supports theoretical arguments that fiscal capacity and institutional design significantly shape the distributional consequences of currency integration (De Grauwe, 2018; Lane, 2023; Rossi, 2017).

Finally, the distinction between short-term and long-term effects reveals that social and regional tensions are not merely transitional. While some macroeconomic indicators stabilize over time, structural disparities persist. Without sustained and targeted policy intervention, currency integration alone is unlikely to generate full convergence. Rather than eliminating asymmetries, it may interact with structural conditions in ways that entrench them.

6.2 Policy Implications for Central and Eastern Europe

For Central and Eastern European (CEE) economies, the findings highlight the importance of complementary policy frameworks accompanying currency integration. Many CEE countries entered the

process of monetary integration with relatively low income levels, pronounced regional disparities, and comparatively limited fiscal capacity. These structural characteristics shape the distributional outcomes of post-integration recovery.

Experiences from Slovakia, the Baltic states, and Croatia suggest that currency integration can support macroeconomic stability and growth. However, empirical evidence also indicates that gains are frequently concentrated in capital regions and export-oriented sectors, while peripheral regions and vulnerable social groups face slower adjustment (Baldwin et al., 2019; European Stability Mechanism, 2021). This underscores the need for active regional development policies aimed at strengthening infrastructure, innovation capacity, and human capital in lagging territories. Social policy design is equally critical. In CEE economies, households with lower incomes often possess limited financial buffers and are more vulnerable to price adjustments. Targeted social transfers, effective indexation mechanisms, and well-designed minimum income schemes can mitigate short-term welfare losses and preserve social cohesion during adjustment phases (OECD, 2024; World Bank, 2023).

Fiscal sustainability and fiscal space are also central considerations. In the absence of monetary autonomy, fiscal policy remains the primary macroeconomic stabilization tool. Maintaining sufficient fiscal buffers prior to and during integration enhances the capacity to respond to asymmetric shocks. Strategic use of EU cohesion funds and recovery instruments can further support national efforts, particularly in countries with limited domestic fiscal capacity.

6.3 Policy Implications for Bulgaria

For Bulgaria, the findings suggest that currency integration should be embedded within a comprehensive regional and social development strategy. The pronounced divide between economically dynamic urban centers—especially the capital region—and peripheral areas reflects longstanding structural imbalances in productivity, infrastructure, and public service provision (Eurostat, 2023; National Statistical Institute, 2024).

Strengthening regional investment policies is therefore essential. Public investment in transport infrastructure, digital connectivity, education, and healthcare in lagging regions can enhance adaptive capacity and reduce territorial disparities. Effective absorption and strategic allocation of EU cohesion funds are particularly important to prevent further concentration of economic activity in already developed regions.

From a social perspective, targeted protection of low-income and fixed-income households is crucial. Indexation mechanisms, income support programs, and carefully designed energy and housing subsidies can cushion inflation-related welfare losses during the early stages of integration. Active labor market policies focused on reskilling, vocational training, and mobility support can further reduce adjustment costs and improve long-term resilience.

Fiscal policy plays a pivotal role. A balanced approach combining fiscal discipline with countercyclical flexibility allows for targeted interventions when regional or social asymmetries intensify. Without such flexibility, adjustment costs may disproportionately burden vulnerable groups, undermining social cohesion and long-term convergence prospects.

Institutional coordination is equally important. Effective collaboration between national and regional authorities, combined with improved administrative capacity, strengthens the implementation of compensatory policies and maximizes the impact of available resources.

6.4 Policy Implications for Southern and Western Europe

In Southern European economies, currency integration has often interacted with pre-existing structural weaknesses, including high public debt, segmented labor markets, and regional disparities. In such contexts, adjustment to common monetary conditions may occur through wage restraint and internal devaluation mechanisms, potentially generating prolonged social costs (Krugman, 2012; Stiglitz, 2016). Targeted short-term compensatory measures—such as income support for vulnerable households and temporary subsidies for essential goods—can mitigate immediate welfare losses following integration. However, long-term resilience

depends on structural reforms aimed at productivity enhancement, labor market inclusiveness, and regional diversification.

Western European economies typically possess greater fiscal capacity and stronger welfare systems, enabling more effective mitigation of asymmetric shocks. Nevertheless, internal regional disparities persist even in these countries. Sustained investment in innovation, skills development, and territorial cohesion remains necessary to ensure inclusive growth within the monetary union.

6.5 Policy Implications for Slovakia, the Baltic States, and Northern Europe

Slovakia and the Baltic states are often regarded as relatively successful integration cases, supported by strong export orientation and institutional discipline. Yet even in these economies, recovery has tended to concentrate in capital regions and high-productivity sectors, while peripheral areas experience slower income convergence (Rodríguez-Pose, 2018).

In Northern European countries, stronger welfare systems and automatic stabilizers facilitate adjustment. Nonetheless, regional and social disparities persist, particularly between metropolitan and remote regions. Maintaining a balance between fiscal discipline and targeted public investment is therefore essential to prevent the entrenchment of internal core–periphery dynamics. To synthesize the comparative patterns identified across European economies, Table 3 provides an overview of social and regional asymmetries in post-integration recovery.

Table 3

Social and Regional Asymmetries in Economic Recovery after Currency Integration

Group of Countries	Regional Effects	Social Effects	Role of Fiscal Policy	Overall Pattern
Central and Eastern Europe	Faster recovery in capital regions; persistent lag in peripheral regions	Gains concentrated among higher-income groups	Partial national compensation	Pronounced asymmetries
Southern Europe	Strong core–periphery divides	High vulnerability of low-income households	Fiscal constraints limit response	Persistent structural asymmetries
Western Europe	More balanced recovery, internal disparities remain	Stronger welfare buffering	Higher fiscal capacity mitigates shocks	Moderate asymmetries
Northern and Baltic States	Export-oriented regions recover faster	Gains concentrated among skilled labor	Disciplined but targeted intervention	Asymmetries with convergence potential

Source: Authors' compilation.

The comparative evidence indicates that social and regional asymmetries are not exceptional but structural features of recovery within a monetary union. The magnitude and persistence of these asymmetries depend heavily on institutional quality, fiscal space, and policy design. Currency integration, in itself, does not guarantee convergence. Without active territorial, social, and fiscal policies, it may amplify existing disparities rather than reduce them.

7. Contribution

This study makes several contributions to the contemporary literature on currency integration and economic recovery. First, it advances the theoretical discussion by integrating the theory of optimal currency areas with regional economic theory and socio-economic approaches to inequality. By combining these perspectives within a single analytical framework, the study systematically conceptualizes the mechanisms through which currency integration may produce differentiated recovery patterns across regions and social groups. Second, the article provides an empirical contribution through a structured quantitative analysis of post-integration economic and social dynamics, focusing on Bulgaria while situating the findings within a

broader European context. By employing a combined temporal and regional research design, the study documents heterogeneous recovery trajectories at the NUTS 2 level and across income groups. In doing so, it addresses a relative gap in the empirical literature concerning the distributional and territorial effects of currency integration in Central and Eastern Europe. Third, the study contributes to policy-oriented debates by empirically highlighting the role of fiscal instruments as potential compensatory mechanisms under conditions of limited monetary autonomy. The findings clarify the institutional and fiscal conditions under which currency integration may either mitigate or reinforce existing social and regional disparities. This provides relevant insights for policymakers at both national and European Union levels, particularly in economies characterized by structural heterogeneity.

8. Conclusion

This study analyzed social and regional asymmetries in economic recovery following currency integration, with a primary focus on Bulgaria examined within a broader European framework. The findings indicate that currency integration does not automatically generate balanced economic recovery. Instead, under conditions of structural and institutional heterogeneity, it is associated with differentiated outcomes across regions and social groups.

The empirical results suggest that economically more developed regions tend to recover more rapidly and sustainably, while peripheral and structurally weaker regions face slower adjustment. This pattern challenges assumptions of automatic territorial convergence within a monetary union and reflects broader dynamics observed in other European economies. At the social level, the analysis demonstrates that post-integration recovery benefits are unevenly distributed. Higher-income households and workers in more productive sectors appear better positioned to benefit from stabilization effects, whereas vulnerable groups remain more exposed to inflationary pressures and labor market volatility. These findings underscore the importance of initial income structures, labor market segmentation, and institutional capacity in shaping distributional outcomes.

The study also highlights the importance of fiscal policy in moderating asymmetric effects. The correlation analysis suggests that public expenditure and targeted public investment are systematically associated with improved socio-economic outcomes. While these relationships do not establish causality, they indicate that fiscal instruments function as key stabilization mechanisms in the absence of independent monetary policy. However, their effectiveness depends on fiscal capacity and institutional design within the monetary union. The distinction between short-term and long-term effects further suggests that initial adjustment tensions do not automatically dissipate over time. Although certain macroeconomic indicators stabilize, structural disparities may persist without sustained and targeted policy intervention. This reinforces the importance of coordinated regional, social, and fiscal strategies at both national and European levels.

Overall, the study demonstrates that currency integration should be understood not solely as a macroeconomic stabilization process but also as a structural and distributional transformation. For economies such as Bulgaria, achieving inclusive and resilient recovery requires complementary policies aimed at strengthening territorial cohesion, protecting vulnerable groups, and enhancing institutional capacity. Future research may extend this analysis by incorporating micro-level data, panel econometric techniques, and comparative multi-country models to further examine causal mechanisms linking currency integration, economic recovery, and inequality.

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