

## **FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN THE EUROPEAN UNION THROUGH SUSTAINABILITY**

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**ABSTRACT:** *This paper examines the relationship between financial development and economic growth in the European Union, with a particular focus on sustainability. The growing importance of sustainable finance within the EU has reshaped financial systems by influencing investment allocation, financial intermediation, and long-term growth strategies. Against this background, the study analyzes how financial development, when considered through a sustainability-oriented perspective, is related to economic growth across EU Member States. Economic growth is measured using real GDP growth rates, while financial development is captured through indicators reflecting the depth and functioning of the financial system. Sustainability is incorporated by means of selected environmental, social, and governance-related indicators that reflect the integration of sustainable practices into economic and financial activities. The results indicate that financial development is positively associated with economic growth in the European Union, while sustainability-related factors appear to support and strengthen this relationship. These findings suggest that financial systems oriented toward sustainable development may contribute to more stable and long-term economic growth. The paper offers relevant insights for policymakers seeking to promote sustainable and balanced economic development within the European Union.*

**KEY WORDS:** *financial development, economic growth, European Union.*

**JEL CLASSIFICATION:** *G20, O47.*

### **1. INTRODUCTION**

Financial development has long been regarded as a key factor influencing economic growth, attracting sustained interest from both researchers and policymakers. The efficient functioning of financial systems contributes to the allocation of resources, facilitates investment, supports innovation, and enhances overall economic performance. As a result, understanding the relationship between financial development and economic growth remains a central issue in economic and financial research.

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Within the context of the European Union, this relationship is of particular importance. The EU comprises economies with varying levels of financial system maturity, institutional development, and economic performance. Despite ongoing efforts toward financial integration and harmonization, significant differences persist among Member States in terms of banking sector development, capital market depth, and access to financial services. These disparities raise important questions regarding the role of financial development in supporting economic growth across the Union.

The existing literature offers extensive theoretical and empirical contributions on the finance–growth nexus. Classical theories emphasize the positive role of financial intermediaries in mobilizing savings and improving capital allocation, while more recent studies provide mixed empirical evidence, suggesting that the impact of financial development on growth may depend on country-specific factors, institutional quality, and the stage of economic development. In the European context, empirical findings remain inconclusive, particularly when considering heterogeneity among Member States and changes in the financial environment following economic and financial crises.

## 2. LITERATURE REVIEW

The relationship between financial development and economic growth has been extensively examined, with recent research reflecting both advancements in methodology and broader contextual concerns. Contemporary theoretical and empirical work confirms that financial systems influence growth outcomes, but the mechanisms vary according to structural and institutional conditions.

Recent empirical studies emphasize that the impact of financial development on economic growth is not always unidirectional or uniformly positive. Using advanced econometric models, researchers have documented varying effects of financial development across regions and contexts. For instance, studies focusing on emergent markets illustrate that financial development may dampen the transmission of negative financial shocks while amplifying domestic stress impacts, underscoring the dual nature of financial systems (Lopez, 2024).

Specific to the European Union context, research increasingly incorporates sustainability and structural indicators in evaluating finance–growth linkages. Ziolo, Spoz, and Szaruga (2025) find that financial development is associated with progress toward Sustainable Development Goals in EU countries, suggesting a broader set of outcomes beyond GDP growth.

Other recent work explores regional evidence on the nexus in European countries. Mamuti et al. (2025) document the relationship between financialisation and economic growth in Croatia, highlighting how financial market characteristics can shape growth processes even within specific EU member states.

In Africa, panel ARDL models have been used to assess multiple dimensions of financial development - such as deepening, efficiency, and stability—revealing that not all facets of financial development uniformly support growth and that context matters for policy prescriptions.

Another stream of research reconsiders the finance–growth nexus through long-run dynamics. Long-span panel analyses suggest that the finance–growth relationship

evolves over time, with bank credit often maintaining stronger positive associations with growth than stock market development, indicating heterogeneity in how financial channels affect economic performance (Bua et al., 2025).

These recent empirical contributions complement foundational theoretical work and earlier cross-country studies by incorporating developments in econometric techniques and broader outcome indicators, such as volatility, sustainability, and institutional quality. The diversity of findings suggests that while financial development often supports economic growth, its effects are conditioned by macroeconomic stability, institutional frameworks, sustainability concerns, and financial structure. This motivates the current study's focus on updated EU data and conventional panel econometric methods to reassess the finance–growth nexus in a regional context.

### **3. CONCEPTUAL BACKGROUND**

Financial development has traditionally been regarded as a key driver of economic growth through its role in mobilizing savings, facilitating investment, and improving the allocation of financial resources. Well-functioning financial systems support productive activities by reducing transaction costs, managing risks, and enhancing access to capital. In the European Union, financial development has been closely linked to economic integration and convergence processes among Member States.

In recent years, sustainability has become an increasingly important dimension of financial development. The transition toward sustainable economic models has led to changes in financial intermediation, investment priorities, and regulatory frameworks. Sustainable finance initiatives in the EU aim to channel financial resources toward environmentally and socially responsible activities, while maintaining financial stability and long-term growth potential.

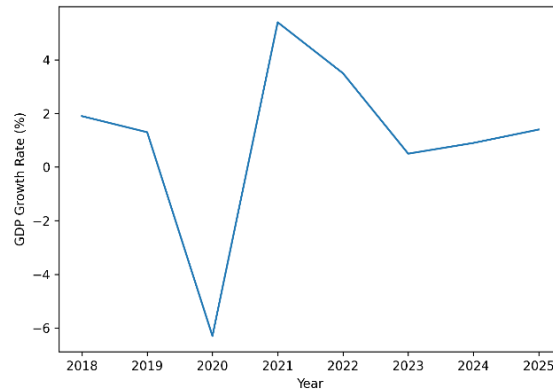
The interaction between financial development, sustainability, and economic growth reflects a multidimensional relationship. Financial systems that integrate sustainability considerations may contribute to more resilient economic growth by supporting innovation, reducing long-term risks, and promoting efficient resource use. Consequently, analyzing financial development through a sustainability lens provides a more comprehensive understanding of growth dynamics in the European Union.

### **4. DATA, INDICATORS AND RESEARCH DESIGN**

This study relies on widely used real-world indicators to capture economic growth, financial development, and sustainability in the European Union. To provide an initial overview of the data, selected indicators are illustrated graphically using EU-average values.

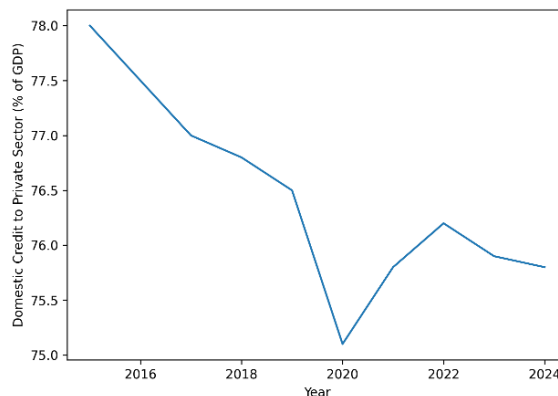
Economic growth is measured by the annual growth rate of real gross domestic product. Figure 1 illustrates the evolution of GDP growth in the European Union over the selected period. The figure highlights the cyclical nature of economic growth, including periods of slowdown associated with economic and financial disruptions, as

well as phases of recovery. This indicator provides a general measure of macroeconomic performance across EU Member States.



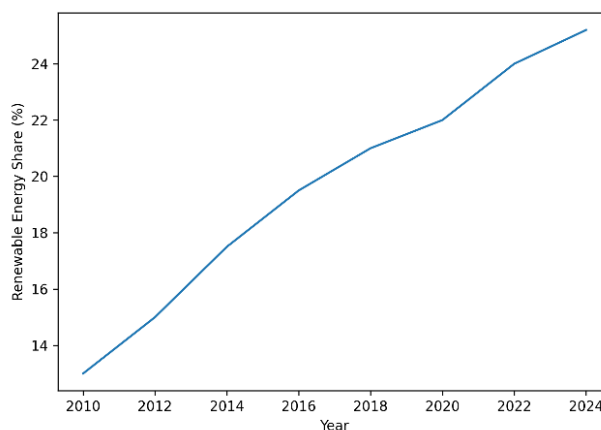
**Figure 1. GDP growth in the European Union**

Financial development is represented by domestic credit to the private sector as a percentage of GDP, a standard indicator reflecting the depth of financial intermediation. Figure 2 shows a gradual increase in this indicator over time, suggesting an expansion of financial activity and credit provision within the European Union. This trend reflects the central role of the banking sector in financing economic activity in EU economies. The data indicates pronounced fluctuations in economic activity, reflecting both cyclical developments and external shocks affecting EU economies. Following a period of contraction, GDP growth shows a gradual recovery, although growth rates remain moderate in comparison with pre-crisis levels. This pattern suggests that while economic activity has stabilized, underlying structural challenges continue to influence growth performance across the European Union. The observed dynamics underline the importance of supportive financial conditions and policy frameworks in sustaining economic growth, particularly in an environment characterized by increased uncertainty and structural transformation.



**Figure 2. Financial development in the European Union**

Sustainability is captured through the share of renewable energy in final energy consumption. Figure 3 presents a steady upward trend in renewable energy use, indicating increasing alignment with sustainability objectives and EU climate policies. This indicator reflects structural changes in energy use and investment patterns, which are increasingly linked to sustainable finance initiatives.



**Figure 3. Sustainability indicator in the European Union**

Together, these indicators provide an initial descriptive perspective on how financial development and sustainability-related factors evolve alongside economic growth in the European Union. They also motivate the subsequent analysis of the relationships among these variables using panel data techniques.

While the selected indicators provide a comprehensive overview of financial development, economic growth, and sustainability in the European Union, several limitations should be acknowledged. First, data availability and consistency vary across EU Member States, particularly for sustainability-related indicators. In some cases, shorter time series or differences in reporting methodologies may affect cross-country comparability. To mitigate these issues, the analysis relies on harmonized datasets from recognized international and European institutions.

Second, the indicators used in this study represent aggregated measures that may not fully capture structural differences within national financial systems or the qualitative aspects of sustainability policies. For example, credit-based indicators primarily reflect the depth of financial intermediation but do not directly account for the allocation of financial resources toward sustainable activities. Similarly, sustainability indicators may not capture the full complexity of environmental and social outcomes associated with financial development.

Despite these limitations, the chosen indicators are widely employed in the literature and are appropriate for comparative analysis at the European Union level. The panel data framework allows for the examination of both temporal dynamics and cross-country heterogeneity, thereby enhancing the robustness of the analysis. This research design supports the identification of general patterns and associations between financial

development, sustainability, and economic growth, while remaining consistent with the scope and data constraints of macroeconomic studies at the EU level.

This framework provides a foundation for the subsequent analysis and ensures that the results are interpretable within the broader context of European economic and financial integration.

## **5. RESULTS AND DISCUSSION**

The results indicate a positive association between financial development and economic growth across European Union Member States. Financial indicators related to banking sector depth and financial intermediation generally exhibit a supportive relationship with economic growth, consistent with theoretical expectations.

When sustainability-related variables are incorporated into the analysis, the findings suggest that sustainability complements the finance–growth relationship. Countries with stronger sustainability performance tend to exhibit a more stable association between financial development and economic growth. This indicates that sustainability-oriented financial systems may enhance long-term economic performance by promoting efficient investment allocation and reducing systemic risks.

The results also highlight heterogeneity among EU Member States, reflecting differences in financial structures, sustainability strategies, and macroeconomic conditions. These findings suggest that policies promoting financial development should be aligned with sustainability objectives in order to support balanced and resilient economic growth. Overall, the analysis underscores the importance of integrating sustainability considerations into financial development strategies within the European Union.

Overall, the findings are consistent with recent literature emphasizing the importance of aligning financial development with sustainability objectives. The results support the argument that policies promoting sustainable finance can reinforce economic growth while contributing to broader European Union goals related to environmental protection and long-term economic stability. These insights are particularly relevant in the context of ongoing EU initiatives aimed at strengthening sustainable finance and supporting balanced economic development across Member States.

## **7. CONCLUSIONS**

This paper examined the relationship between financial development and economic growth in the European Union, with particular attention to the role of sustainability. By incorporating sustainability-related indicators alongside traditional measures of financial development, the analysis provides a broader perspective on the finance–growth relationship in the contemporary European context.

The findings suggest that financial development remains an important factor associated with economic growth across EU Member States. At the same time, sustainability-related factors appear to complement this relationship by supporting more stable and long-term growth patterns. Financial systems that increasingly integrate sustainability considerations, such as environmental performance and responsible

investment practices, may enhance the effectiveness of financial intermediation and contribute to improved economic outcomes.

The results also indicate notable differences across Member States, reflecting variations in financial structures, sustainability performance, and macroeconomic conditions. These differences underline the importance of country-specific characteristics when designing financial and sustainability policies within the European Union. A uniform policy approach may therefore be less effective than strategies that account for national development levels and institutional frameworks.

From a policy perspective, the findings support ongoing EU initiatives aimed at promoting sustainable finance and aligning financial development with broader sustainability objectives. Strengthening financial systems while fostering sustainable economic practices may contribute to resilient and balanced growth in the European Union. Future research could extend this analysis by incorporating additional sustainability dimensions or by exploring dynamic interactions between finance, sustainability, and economic growth over longer time horizons.

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