THE DYNAMICS OF FISCAL SUSTAINABILITY IN THE CONTEXT OF GREEN TRANSITION

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Abstract

The transition toward sustainable economic development and climate neutrality has intensified the importance of understanding the relationship between fiscal sustainability and green transition dynamics within European economies. In the context of the European Green Deal, REPowerEU strategy, and increasing fiscal pressures generated by economic instability, public debt expansion, and environmental transition costs, governments are required to balance environmental objectives with long-term fiscal stability. The present study investigates the impact of renewable energy consumption, environmental taxation, government expenditure, and macroeconomic performance on fiscal sustainability in selected European economies, namely Bulgaria, Germany, Hungary, Poland, and Romania, during the 2015–2024 period. The research employs a comparative econometric framework based on Ordinary Least Squares (OLS) regression models estimated separately for each country using annual data collected from Eurostat databases. The empirical findings indicate that renewable energy consumption and environmental taxation exert heterogeneous effects on government fiscal balance across the analysed economies. Romania and Hungary display comparatively stronger relationships between renewable energy transition and fiscal sustainability, while Germany and Romania record more significant effects associated with environmental taxation mechanisms. Government expenditure and real GDP per capita emerge as important determinants of fiscal balance dynamics, confirming the strong interdependence between macroeconomic performance, fiscal capacity, and environmental transition policies. The econometric results also reveal substantial differences among the analysed countries regarding public indebtedness, renewable energy integration, and fiscal resilience. The study contributes to the literature on sustainable public finance by integrating fiscal, environmental, and macroeconomic variables into a unified comparative framework capable of capturing the interaction between green transition policies and fiscal sustainability. The findings underline the necessity of adopting differentiated and country-specific fiscal strategies capable of supporting environmental transition objectives while maintaining long-term

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macroeconomic stability and public finance sustainability within the European Union context.

Keywords
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