Abstract

This thesis presents three empirical essays that examine the complex interactions between economic growth, environmental sustainability, foreign direct investment (FDI), economic complexity, and natural resource rents, using diverse global samples and advanced econometric techniques. Collectively, the essays aim to provide a deeper understanding of the validity of prominent economic-environmental hypotheses, the determinants of capital inflows, and the resource–growth nexus, thereby offering insights with strong policy relevance for both developed and developing nations.

The first essay revisits two prominent hypotheses in environmental economics—the Environmental Kuznets Curve (EKC) and the Pollution Haven Hypothesis (PHH)—for a global sample of 132 nations over the period 1995–2020. Using robust panel data models and heterogeneity tests, the analysis confirms an inverse U-shaped EKC at the global level, indicating that economic growth initially undermines environmental sustainability, though the effect diminishes at higher income levels. However, the PHH is not supported when all countries are considered together. Further disaggregation reveals that an N-shaped EKC better describes the growth–pollution relationship in developing nations, while no EKC form is valid for developed nations. In addition, the PHH holds some validity in developing countries but not in advanced economies. These results underscore the necessity of differentiated policy frameworks tailored to the structural and developmental characteristics of each country group.

The second essay focuses on the role of economic complexity and uncertainty in shaping global FDI inflows, employing a balanced panel of 84 countries from 1995–2020. Using a fixed effects model and heterogeneity tests, the study finds that economic complexity positively influences inward FDI, while various forms of uncertainty—economic, political, and policy-related—significantly hinder capital inflows. These findings highlight that structural transformations, such as diversifying and upgrading export baskets, are critical for attracting sustainable FDI. At the same time, the results caution that exogenous shocks, institutional instability, and unpredictable policy environments can disrupt cross-border capital flows, with significant implications for growth strategies in both developed and developing contexts.

The third essay investigates the impact of natural resource rents on economic growth, focusing on the top 15 oil-exporting nations from 1995–2020. By applying second-generation econometric diagnostics and the Method of Moments Quantile Regression (MMQR), the study shows that, in aggregate, resource rents contribute positively to economic growth, challenging the notion of a universal resource curse. Disaggregated analysis reveals that oil, natural gas, and forest rents stimulate growth, whereas coal rents exert no significant effect. The results also uncover heterogeneity in the influence of human capital across the growth distribution. Furthermore, globalization, renewable energy expansion, and rising carbon emissions are found to accelerate growth in these territories. These insights suggest that resource-rich nations can avoid the resource curse through policies that encourage economic diversification, renewable energy adoption, and human capital investment.

Together, these three essays demonstrate the multifaceted relationships between growth, environment, investment, and resources. They provide evidence that global development challenges cannot be addressed through uniform strategies, but instead require nuanced, context-specific policies. The findings highlight the importance of sustainable industrialization pathways, export sophistication, institutional resilience, and efficient resource management in achieving long-term growth and environmental objectives.