

HABILITATION THESIS

SCIENTIFIC CONTRIBUTIONS TO THE FOUNDATION OF ENVIRONMENTAL POLICIES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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SUMMARY

The paper entitled **“Scientific Contributions to the Foundation of Environmental Policies in the Context of Sustainable Development”** provides an integrated approach to the complex relationships between resources use efficiency, the green transition, and economic competitiveness, with a particular focus on the specific features of the Romanian economy within the European context.

The paper presents the main results obtained within ten scientific studies carried out as part of multi- and interdisciplinary research teams, published in various scientific journals or presented at academic conferences after the completion of the doctoral program, all having environmental economics and sustainable development as their central theme.

This research direction was consolidated through the doctoral thesis publicly defended in 2012, entitled *“The Compatibility of Environmental Policies in Romania’s Agri-food Sector with Those of the European Union”*, which explored topics related to sustainable development, circular economy, and environmental public policies, and through the postdoctoral thesis completed in 2015, entitled *“Efficient Use of Romania’s Agricultural Potential under the Conditions of Sustainable Development”*, in which research was deepened on sustainability and eco-economic instruments applicable in both the Romanian and European contexts.

The teaching activity carried out complements these research directions naturally. Within the Bucharest University of Economic Studies (ASE), I have taught, at different stages of my career, courses in the field: *Environmental Economics*, *Rural and Regional Development*, *Processing of Agricultural Products*, and *Strategies for Sustainable Consumption*. Through the curricula of these disciplines, I have sought to provide students with theoretical knowledge and a critical understanding of the relationship between the economy and the environment, as well as of the responsibility that future economists hold towards natural resources and society.

This coherence between academic training and research interests has also been reflected in contributions to the specialized literature. Over time, I have published scientific articles in national and international journals addressing topics related to environmental economics and sustainable development. In these works, together with co-authors, I have aimed to answer theoretical questions and provide practical insights for policymakers and the academic community.

The scientific activity carried out in the period following the defense of the doctoral thesis is reflected in **ten representative works**, which synthesize the main theoretical and applied contributions and are grouped into **three major research directions**, as follows:

RESEARCH DIRECTION I – CIRCULAR ECONOMY AND RESOURCE MANAGEMENT POLICIES

1. Different Scenarios for the Development of the Circular Economy Based on the Deposit System. The Case of Romania, Economic Computation and Economic Cybernetics Studies and Research - STRAT Vasile Alecsandru, TRICĂ Carmen Lenuța, **TEODOR Cristian**, IGNAT Raluca, DRĂCEA Raluca Mihaela, PETRESCU Irina Elena, DARIE Flavius Cosmin.
2. Good Practices of Efficient Packaging Waste Management, Amfiteatru Economic - **TEODOR Cristian**, TRICĂ Carmen Lenuța, IGNAT Raluca, DRĂCEA Raluca Mihaela.
3. The Characterization of the Romanian Circular Economy's Potential at County Level, Amfiteatru Economic. STRAT Vasile Alecsandru, **TEODOR Cristian**, SĂSEANU Andreea Simona
4. Study titled "Assessment of the Deposit System, Component of the Waste Management System in Romania", Academy of Economic Studies (ASE) - **Cristian TEODOR** (coordinator), Mariana Bran, Raluca Ignat, Erika Marin, Vasile Strat, Carmen Trică.

RESEARCH DIRECTION II – ENERGY EFFICIENCY, POLLUTION AND ECONOMIC GROWTH

5. Energy Efficiency of E.U. Member States: A Panel Data Analysis, Economic Computation and Economic Cybernetics Studies and Research - DRĂCEA Raluca Mihaela, IGNAT Raluca, TRICĂ Carmen Lenuța, **TEODOR Cristian**, CIOBANU Laura, NEDELCU Alexandra Cătălina.
6. Exploring the Link Between Environmental Pollution and Economic Growth in EU-28 Countries: Is There an Environmental Kuznets Curve?, PLoS One - ARMEANU Ștefan Daniel, VINTILĂ Georgeta, ANDREI Jean Vasile, GHERGHINA Ștefan Cristian, DRĂGOI Mihaela-Cristina, **TEODOR Cristian**.
7. Sentiment Analysis of Global News on Environmental Issues: Insights into Public Perception and Its Impact on the Low-Carbon Economy Transition, Frontiers in Environmental Science - BUCUR Cristian, TUDORICĂ Bogdan George, ANDREI Jean Vasile, DUȘMĂNESCU Dorel, PARASCHIV Dorel Mihai, **TEODOR Cristian**.

8. A Chinese Business: The Belt and Road Initiative, in Dinu V. (ed.), BASIQ International Conference: New Trends in Sustainable Business and Consumption, Proceedings of BASIQ, pp. 657–664, Bari, Italy - TOMA Sorin-George, SĂSEANU Andreea Simona, **TEODOR Cristian**.

RESEARCH DIRECTION III – COMPETITIVENESS OF THE AGRI-FOOD SECTOR AND SUSTAINABLE DEVELOPMENT

9. Systemic Competitiveness in the EU Cereal Value Chain: A Network Perspective for Policy Alignment, Land - ISTUDOR Nicolae, CONSTANTIN Marius, PRIVITERA Donatella, IGNAT Raluca, PETRESCU Irina Elena, **TEODOR Cristian**.
10. The Influence of Land Structure on the Performance of Wheat Production: The Case of the Romanian Counties – Challenging the Changes - **TEODOR Cristian**, BRAN Mariana, STRAT Vasile Alecsandru.

The three research directions are presented in detail within the paper through the analysis of the scientific context, a comparative assessment based on statistical indicators relative to the European Union member states, and the presentation of the author's own scientific contributions brought to each of the three areas of research.

The paper is structured into four chapters, preceded by an introduction and concluded with a section dedicated to references.

The first chapter, "*Research Direction I - Circular Economy and Resource Management Policies*", provides an extensive analysis of the transition from the linear to the circular economic model, starting from the fundamental concepts of the specialized literature and continuing with an applied approach to the Romanian context. The chapter evaluates the main public policy instruments, the performance indicators of the circular economy, and the impact of waste management systems, emphasizing the role of European funds in accelerating structural convergence. Within this chapter, the author presents his own scientific contributions to this research direction, materialized in the analysis of the deposit-return system, the evaluation of circularity potential at the regional level, and the formulation of recommendations for integrating circular economy principles into national public policies. Through a rigorous quantitative and qualitative analysis, the chapter highlights that Romania is in an early stage of transition but with significant potential for the valorization of secondary resources and the adoption of green economy principles.

The second chapter, "*Research Direction II - Energy Efficiency, Pollution, and Economic Growth*", deepens the analysis of the interdependencies between energy consumption, greenhouse gas emissions, and economic performance in the European Union

member states. Within this chapter, original scientific contributions are presented through the application of econometric models on time series and panel data to evaluate the degree of energy efficiency and to test the Environmental Kuznets Curve hypothesis, according to which economic development initially increases pollution, followed by its reduction as income grows. Moreover, the author constructs and validates an original econometric model exploring the relationship between energy intensity, CO₂ emissions, and economic growth, as well as an analysis of public perceptions regarding the green transition and the integration of the geopolitical dimension of energy security in the European context. The results indicate persistent disparities between Western and Eastern European countries, but also partial convergence trends in energy performance. The author's scientific contributions also integrate reflections on the implications of the *Belt and Road Initiative* for sustainable energy infrastructure, offering a broad perspective on the relationship between energy, growth, and the environment.

The third chapter, entitled "*Research Direction III - Competitiveness of the Agri-food Sector and Sustainable Development*", represents a significant contribution to understanding how sustainability can become a source of competitive advantage. This chapter presents an analysis of the agri-food sector's performance in the European Union member states, with a focus on Romania, examining the structure of agricultural production, the dynamics of agricultural GDP, international trade, and the role of the Common Agricultural Policy. In this context, the author presents his own scientific contributions to this research direction through the development of an integrated methodology for analyzing agri-food competitiveness, based on specific indicators (such as the Balassa index), and through an applied econometric study on the relationship between agricultural productivity, land structure, and regional economic performance. The case study on Romania demonstrates that modernizing rural infrastructure, digitalization, and the consolidation of agricultural holdings are essential conditions for enhancing systemic competitiveness and achieving sustainable integration into European value chains.

The final chapter presents a proposal for the development of the academic career and outlines the professional trajectory, emphasizing a complex activity that combines didactic, scientific, and administrative dimensions. The professional activity is marked by active involvement in student training and the modernization of university programs, participation in numerous national and international projects, and relevant scientific contributions in the fields of environmental economics, energy, and sustainable agriculture. The paper also proposes a coherent vision for strengthening university research by developing a scientific school focused

on sustainability, innovation, and competitiveness, capable of connecting the Romanian academic environment to international research networks.

The last section of the paper is dedicated to the *Bibliography*, which includes the list of main references consulted and cited both in the habilitation thesis and in the scientific works presented.

Overall, the work makes a significant contribution to understanding the structural transformation processes of the Romanian economy toward sustainable development, combining macroeconomic analysis with applied sectoral studies.

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