

OPINION

on a Dissertation Thesis for the Award of the Educational and Scientific Degree of DOCTOR

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Prepared by: Assoc. Prof. Dr. Valentin Ivanov Milinov, PhD, Department of Finance and Credit, D. A. Tsenov Academy of Economics – Svishtov, scientific specialty "Finance, Monetary Circulation, Credit and Insurance" (Finance).

Regarding: Dissertation thesis entitled "*SUSTAINABILITY AND ENTREPRENEURSHIP IN CORPORATE GOVERNANCE*".

This opinion is presented in accordance with an Order of the Rector of D. A. Tsenov Academy of Economics – Svishtov.

I. GENERAL PRESENTATION OF THE DISSERTATION THESIS

The dissertation submitted for evaluation is a relevant study related to the search for innovative and creative solutions to the most pressing problems of the global economy. The author analyzes and evaluates climate change, the depletion of natural resources, increasing plastic waste pollution, and deepening social inequalities, which form a new paradigm within which sustainable development is established not only as an ethical imperative but also as a strategic factor for corporate competitiveness.

The dissertation has a total volume of 224 standard pages, structured into an introduction, four chapters, a conclusion, a list of references, and appendices. This structure reflects the logic of the research, from the theoretical clarification of sustainability and corporate value, through the analysis of polylactic acid as a sustainable alternative to traditional plastics, to the development of an empirical and methodological framework for assessing its impact on sustainability and corporate value.

The author's publications are sufficient to satisfy the minimum national requirements for the award of the educational and scientific degree "Doctor". PhD student Martin Yavorov Bakardzhiev has reviewed a substantial body of scientific literature. This demonstrates the author's in-depth knowledge of the researched topic. The dissertation includes the necessary number of figures and tables in support of the analysis.

The object of the research is the impact of sustainable practices on firm value in the context of modern corporate governance. The research encompasses both theoretical concepts of sustainability and corporate value and the practical mechanisms for their integration into specific business models, with a focus on the biopolymer industry.

The subject of the research covers the specific mechanisms through which the integration of environmental, social and governance (ESG) initiatives—particularly the production of polylactic acid (PLA) from corn—affects corporate value, profitability, and the long-term competitiveness of companies.

Special attention is devoted to the three-channel impact model: reducing the cost of capital through ESG-adjusted WACC, increasing operating margins, and achieving premium valuation of sustainable companies in financial markets.

The leading research thesis aims to demonstrate that the integration of sustainable practices into corporate governance contributes both to reducing environmental harm and to increasing the long-term economic value of companies. The thesis challenges the traditional linear interpretation of the relationship between ESG and financial performance and proposes an alternative three-channel model for the positive impact of sustainable practices on corporate value.

The main objective of the dissertation is to investigate and quantitatively assess the impact of sustainable practices on corporate value by revealing the causal relationships between environmental innovation, social responsibility, and firms' financial performance. The study aims to propose an integrated analytical model linking sustainability with specific financial mechanisms and to demonstrate its practical applicability through the case of PLA production from corn. An additional objective is the formulation of scientifically grounded practical recommendations for both the corporate sector and public policy.

II. ASSESSMENT OF THE FORM AND CONTENT OF THE DISSERTATION THESIS

The dissertation is a relevant scientific study supported by the necessary number of figures (7) and tables (14), which confirm the author's thesis and scientific conclusions. The 364 foreign literature sources used are correctly cited.

An abstract has been prepared in accordance with the requirements regarding volume and content and reflects the most significant research findings and scientific contributions of the dissertation. The author's four publications are directly related to the dissertation topic.

III. POSITIVE ASPECTS OF THE DISSERTATION THESIS

The dissertation is an independent research work by the author and contains significant merits and scientific contributions, namely:

First. An interdisciplinary theoretical and analytical framework has been developed for examining the relationship between sustainability and corporate value. The model systematizes the financial and non-financial mechanisms through which sustainable practices generate corporate value.

Second. The principal mechanisms through which sustainable practices influence corporate value have been systematized. The dissertation advances the thesis that the relationship between sustainability and financial performance should not be interpreted as a simple linear dependency. Instead, a three-channel impact model is substantiated, according to which sustainable practices can create value through: reducing the cost of capital and regulatory risk; improving operational efficiency and resource productivity; strengthening reputation and social legitimacy; facilitating access to ESG-oriented investors; and enabling the premium market positioning of sustainable products. The three-channel model captures the impact of the following mechanisms: (1) a reduction in the cost of capital through an ESG-adjusted WACC (a decrease of 0.8–1.2 percentage points); (2) an increase in operating margin (EBITDA +3.2%); and (3) a valuation premium (EV/EBITDA +1.3x). The model integrates Life Cycle Assessment (LCA) with Discounted Cash Flow (DCF) valuation through carbon pricing, representing a significant methodological contribution. In this way, the model moves beyond the general assertion that “sustainability is beneficial” by linking it to specific financial and non-financial channels of value creation.

Third. The conceptual and practical role of polylactic acid (PLA) as an example of sustainable industrial innovation has been established. PLA is analyzed as a bio-based material that provides an appropriate framework for examining the relationship between environmental innovation, production economics, and corporate value. The dissertation systematizes the production process, raw material base, industrial applications, as well as the advantages and limitations of PLA in comparison with conventional plastics. The contribution lies in the fact that PLA is not viewed merely as a technological alternative, but rather as an economic and managerial case through which it is possible to assess how a sustainable material contributes to the transformation of a company’s business model, market reputation, and investment attractiveness. This contribution is substantiated in Chapter Three, which is devoted to the technological, economic, and environmental dimensions of PLA.

Fourth. The strategic importance of corn for biopolymer production is substantiated. The transition from traditional applications to PLA significantly increases added value and creates new economic opportunities for agricultural communities.

Fifth. A specific investment and financial model for evaluating PLA production has been developed. An investment model for the production of PLA with an annual capacity of 20,000 tonnes has been developed, based on discounted cash flow analysis and key investment performance indicators. The model incorporates Net Present Value (NPV), Internal Rate of Return (IRR), Modified Internal Rate of Return (MIRR), payback period, discounted payback period, profitability index, break-even selling price, and break-even production volume. In this way, the general thesis regarding the economic viability of PLA has been transformed

into a concrete financial assessment capable of supporting investment decision-making within the biopolymer industry.

Sixth. The carbon effect has been integrated into the financial assessment of the sustainable material. The dissertation demonstrates that the environmental benefits of PLA can be translated into a financially measurable effect when avoided CO₂ emissions and their potential monetization through carbon pricing are taken into account. In this way, the environmental argument is incorporated into the investment rationale of the project. This enables a more precise assessment of sustainable corporate value, as the financial model considers not only revenues and costs, but also the effects of a lower carbon footprint, future regulatory incentives, and potential access to green financing.

IV. QUESTIONS REGARDING THE DISSERTATION THESIS

I have no substantial critical remarks or questions regarding the dissertation thesis.

V. OVERALL ASSESSMENT OF THE DISSERTATION THESIS AND CONCLUSION

Based on my positive opinion regarding the scientific research conducted by PhD student Bakardzhiev on the topic "SUSTAINABILITY AND ENTREPRENEURSHIP IN CORPORATE GOVERNANCE", I confirm that it possesses significant contemporary scientific merits and contributions.

On this basis, before the scientific jury, I express my positive assessment and vote with conviction IN FAVOR of awarding the educational and scientific degree of "Doctor" in the scientific specialty "Finance, Monetary Circulation, Credit and Insurance" (Finance) to PhD student Martin Yavorov Bakardzhiev, in accordance with the Academic Staff Development Act and its implementing regulations.

30.05.2026

Prepared by:.....

(Assoc. Prof. Dr. Valentin Milinov, PhD)